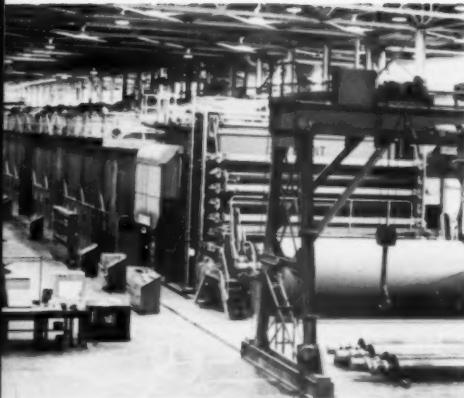


August 7, 1961

PULP & PAPER



Tacoma expands to fill
climbing converter demand 29

Business upswing buoys
hopes for second half 5

Four machines ordered –
3 in U. S., 1 in Canada 11

Nip pressure uniformity
measured in new way 36

Dead trees salvageable –
with better husbandry 50



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Quality too

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as great as 300% by the total elimination of friction between the wire and the flat suction boxes previously used.

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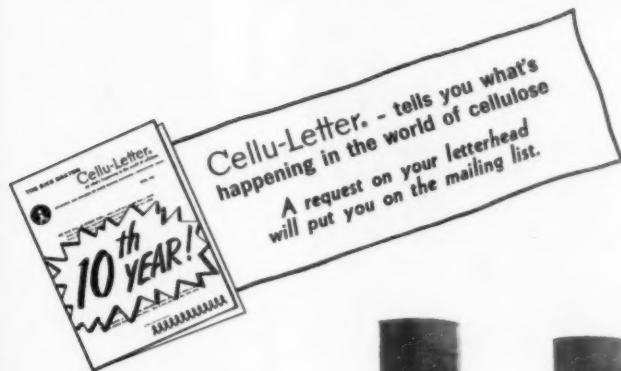
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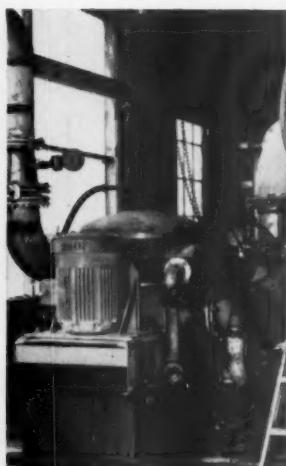
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PULSE OF THE INDUSTRY

NEWS DIGEST

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Are YOU paying too much for Liquid Level or Pressure Control of corrosive fluids?

If you think you are, read these facts about the low cost Fisher "115" Transmitter

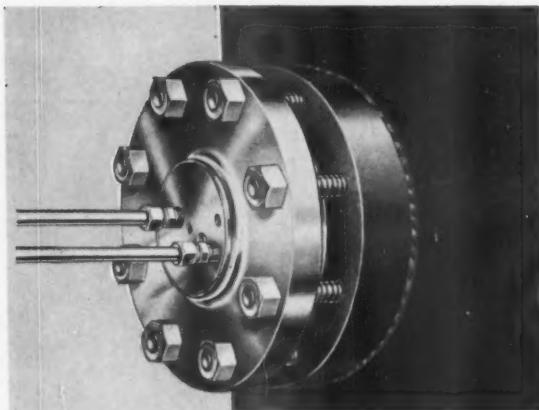
The Type 115 accurately measures the pressure head of viscous or corrosive liquids and transmits a pneumatic output pressure which is equal in magnitude to the measured pressure head. The "115" is constructed so that only the diaphragm, diaphragm retaining ring and gasket come into contact with the hard-to-handle fluid. By careful selection of materials (any alloy or plastic) for these parts, corrosion can be virtually eliminated. Also, since the diaphragm separates the fluid from the remaining parts of the transmitter, there is no danger of clogging.

1 to 1 Transmitter

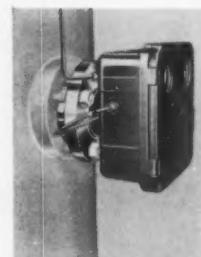
In operation, the force of the liquid head on the diaphragm is opposed by the force of air pressure acting on the opposite side of the diaphragm. There is a bleed orifice which is covered and uncovered by movement of the diaphragm with increasing or decreasing head pressure. With an increase in level, a greater force is created by the liquid head and the diaphragm moves to cover the bleed orifice. The air pressure acting on the diaphragm increases until it equals the head pressure. The increased air pressure is transmitted to an indicator or controller. A decrease in level causes a corresponding decrease in transmitter output pressure. The 3" and 4" Type 115 are linear within 1" w.c. (1.5" w.c. for 2" size) with 20 psi supply pressure.

Applications and Specifications

The major application of the "115" on vented or open tank service are liquid level indication, recording and control. For recording and control installations, a Series 4150 Wizard II pressure controller is required to convert the transmitter output pressure into a standard instrument signal of 3 to 15 psi or 6 to 30 psi for operation of the recorder or control valve. The "115" can also be used on pressure control service where it is necessary to protect the measuring element of a controller from the corrosive or clogging effects of the controlled fluid.



Type 115 Transmitter showing tubing connections for the supply pressure and the output pressure.



Wizard II pressure controller mounted on Type 115 Transmitter.

Available Sizes: 2", 3" and 4"
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Diaphragm Ring Materials: 316 Stainless Steel, Hastelloy C, Nickel, Durimet 20, R-Monel, Polyvinyl Chloride (PVC) or Penton.

Standard Output Range: 2" w.c. to 15 psi with 20 psi supply pressure.

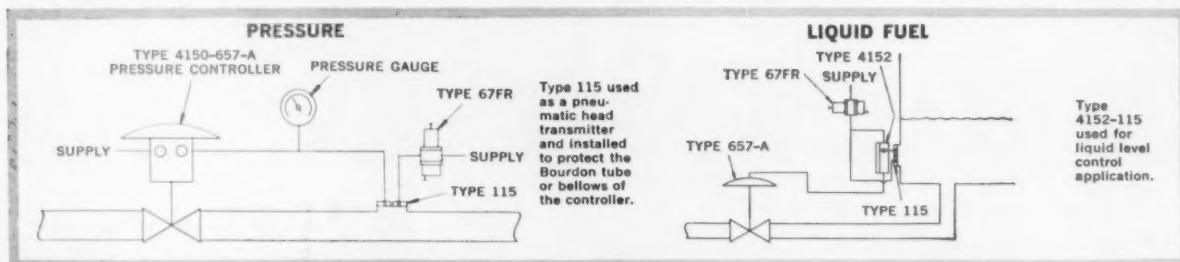
Standard Supply Pressure: 20 psi.

Maximum Supply Pressure: With a Hastelloy C diaphragm, 400 psi for the 2" size and 70 psi for the 3" and 4" sizes.

Maximum Operating Temperature: 400° F.

Maximum Head Pressure: 320 psi for 2" size; 56 psi for 3" and 4" sizes.

Write for Bulletin F-115A. Fisher Governor Company, Marshalltown, Iowa.



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NEWS DIGEST...

Business upturn sparks optimism

for rest of year. Midyear financial reports set no definite pattern. Scott reports record earnings, expects more of same by year end. Diversified Olin had record sales for second quarter with earnings up 81.5%. KVP Sutherland also had improved earnings. See "Business" (below) for round-up.

Six months production of paper and board

was 17.4 million tons, and although this was down 2% from same time last year, the economic climate buoys industry's hopes for improved operations in second half of 1961. Operating rates for paper and board in July were at 90% level. See "Production," page 15, for more news.

Newsprint leads list of new machines

on order. British Columbia Forest Products has bought its 350 tpd machine; Price Bros. plans to add another 130 tpd newsprint/100 tpd kraft paper machine at Kenogami, Que. Albertawest Forest Products starts site preparation work for \$30 million newsprint mill with 100,000 ton capacity at Whitecourt, Alta.

Crown-Zellerbach figures heavily in

expansion news. It will spend \$8.5 million for a new machine and other improvements at Bogalusa, and together with Time Inc. is investing \$25 million at St. Francisville, doubling coated print paper capacity with another machine. See "Industry Growth," page 11, for details.

Six-union strike at Finch, Pruyn & Co.

at Glens Falls, N. Y. has undertones and overtones of vital concern to entire industry. A fresh controversy over long-debated seniority clauses of union-management contracts is a major issue, along with wage adjustments. An on-the-scene report of the strike is on page 9.

International Paper labor agreements,

which involve many of the industry's mills, are being keenly watched by others that are not yet committed. Settlements in North and South are worth 8¢/hour. Says a union president, ". . . good settlements . . . will help in negotiations with others . . . definite pattern of wage increases and other benefits has been set."

Corrugated containers growth continues

especially on West Coast—but not confined there. Weyerhaeuser breaks ground for plant in Omaha, Neb., and St. Regis doubles capacity (page 29) of its Tacoma, Wash., mill to meet accelerated demand at its converting plants.

Major personnel changes make news

this issue. Robert G. Fairburn, one-time president, Diamond Match, later chairman of Diamond National, succeeds 75-year old Dwight S. Bridgman as chairman, Keyes Fibre. U. J. Westbrook is resident manager of Waldorf-Hoerner's Missoula, Mont. mill. IP names George T. Ward as vice pres. i/c manufacturing. T. N. Beaupre resigns as president, Columbia Cellulose and Celgar to become president of BCPP.

BUSINESS

Upturn Heightens Optimism

for better profit performance during rest of year

NEW YORK—Despite the still considerable amount of unused capacity with operating rates of just under 90%, price reductions and generally lower profit performances, the paper industry is apparently being encouraged by the moderate business upturn to let go with some long delayed expansion plans (see story under "Industry Growth" on page 11).

The economic recovery is broad-

ening and total output, employment and income continue to advance, the U.S. Dept. of Commerce reports. Some examples: personal income for May was at a new high, \$414 billion, a \$2.5 billion pickup over April and a \$7.5 billion rise over the low point of last winter; the Federal Reserve Board's index of industrial output rose 3% to 6% in May, within 3% of the all-time peak in January, 1960.

Printing paper price cuts livened midsummer doldrums. Announced by Kimberly-Clark Corp.: a price reduction of \$3 to \$10 a ton on roll grades of printing papers used in letterpress and rotogravure production of magazines and catalogs. Groundwood super went down \$3 a ton; 50 lb. and 45 lb. machine-coated, \$5 a ton; 43 lb. machine-coated dropped \$7 a ton and 40 lb. machine-

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coated, \$10 a ton. Explains Kimberly-Clark, "This reflects today's competitive situation in these lines. While lower prices are not warranted on a cost basis, we do consider them essential to the long range interests of both customers and ourselves. Price reductions are not contemplated in our other lines of printing papers."

One competitor's answer to the explanation, "The only thing I can tell you is we will remain competitive and that's that. There were no loud cheers at their move."

This price reduction on printing papers follows other cuts this year on market pulp, linerboard and kraft multiwall bags.

Midyear financial reports
cannot be lumped under one heading, since they varied widely. S. D. Warren reported amount of products shipped had dropped 2% for the first six months, from 103,595 tons in 1960 to 101,326 tons in 1961. Net dollar sales, however, rose 1% to \$38,964,000 against \$38,742,000 for the same period last year; net profit after taxes was up 5%.

Explains Warren's President George Olmsted, Jr., "... not until the latter part of the year do we foresee a pickup in demand and a more active printing paper market. We would guess, however—and it is a guess—that when the year is over our results will be comparable with those of last year. And so, as Castro would say about our six months record: Profits? Si! Anything to shout about? No!"

Higher sales, paper shipments and earnings for the first six months were reported by Nekoosa-Edwards Paper Co. President John E. Alexander credited the additional capacity of a new paper machine with the company's improved performance. "Business continues to be very competitive. Success or failure of a sale often hinges upon ability to meet tight service and delivery schedules demanded and deserved by paper merchant and printer. Prices, although relatively stable, remain a major problem in the face of rising costs."

Nekoosa's sales during the first half rose to \$25.7 million compared with \$23.5 million in first six months of 1960. Shipments totaled 84,010 tons, a gain of 13%. Net earnings were \$1,791,305 versus \$1,570,565. Per share earnings were \$1 compared with 88¢ a year ago.

Keyes Fibre Co. reports net sales of \$10,766,664 for the first six months against \$10,118,322. Net profit was \$960,764, a drop from last year's

\$1,103,809. Net sales for the interval were greater than in any other comparable period in the company's history, says President Ralph H. Cutting. Profits, however, declined from 69¢ a share to 59¢, partly due to increased labor and materials costs and services and expenses related to financing the company's new plant under construction at Sacramento, Calif.

Improved sales and earnings
were reported for the 12-week period ending June 17 by Federal Paper Board Co., Inc. Reveals President J. R. Kennedy, "Earnings per common share increased almost 100% compared with those of the first 12 weeks of this year. Net income was \$880,000 or 61¢ per common share, versus \$534,000, or 34¢, for the first 12 weeks of this year. The improved demand in paperboard generally should result in a more stabilized price structure . . ."

Rayonier Inc. reported tonnage and dollar sales for the second quarter were better than those for the first quarter, but earnings for the six-month period trailed those of the same period last year. "Price reduc-

tions, which went into effect the first half of 1960, were more strongly felt in the last half of 1960 and continued throughout the first half of 1961," explains President Russell F. Erickson. He attributes lower profits to world-wide price pressures prevailing in chemical cellulose and papermaking pulps for more than a year. But he was optimistic that Rayonier's business would continue at high sales levels through year-end.

Rayonier sold 363,154 tons of chemical cellulose, papermaking pulps and fine papers compared with 364,658 tons in 1960. This was a substantial increase over the 316,391 tons sold during the last half of 1960. Net sales comparison: \$64,689,521 against \$69,598,331.

Sales of St. Regis Paper Co. for the first six months were \$273,281,847, up from \$262,941,356 for the first half of 1960. The hike was more than accounted for by the operations of recently acquired companies, explains St. Regis. Net earnings, after taxes, were \$8,567,200, or about 72¢ per share. Earnings over the same time last year were \$12,350,597, equal to \$1.11 per share. The earn-

ANNOUNCEMENT:

Pollution Control Survey . . .

IN THE NEXT TWO ISSUES OF PULP & PAPER a two-part article will present the most comprehensive and authoritative report yet written on the multitude of processes and techniques that this industry has invented and developed to solve its serious pollution problem.

Why is the subject so important right now? Because a new and more stringent federal law on pollution has just been approved. States also are tightening their laws.

Officials, armed with new powers this year, should know what the industry has done and is trying to do to abate pollution. If the new federal law and other measures are administered unwise, thousands of mill workers' jobs could be imperiled. A monkey wrench could be thrown—however unintentionally—into all the good works that pulp and paper companies are doing.

The two-part article, beginning in our August 21 issue, is factual. It was written by a scientist. We hope it is useful to everyone involved in solving pollution problems, no matter what side he is on—officials, to conservationists, to sportsmen's groups, to mill executives and mill workers, et al.

Reprints of the complete two-part article will be available at 10 cents a copy. The price probably will cover only part of our cost, but we feel the subject is that important and hope the articles will be of genuine service to all persons who want a fair and scientific report.

—The Editor.



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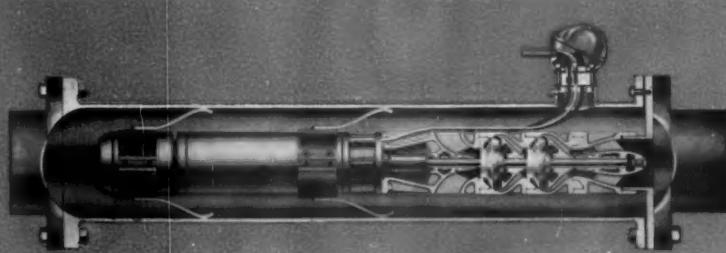
Layne Submersible Pumps are available for wells as small as 6 inches and in capacities from 30 GPM up. For additional information write for free bulletin number 202.

The Layne In-Line Submersible pump provides the answer to many problems in booster pump applications. The pump operates as an integral part of the line and is designed for use by municipalities, industry, such as petroleum and chemical plants and by agriculture. Advantages include: simple installation, no additional space required, continuous service even under flood conditions, and no possibility of surface water contamination.

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ings decline was attributed to reduced prices and slack demand for some products, which resulted in lower production rates at some major mills.

Net income of Union Bag-Camp Paper Corp. for the second quarter of 1961 was \$4,320,216, or 58¢ per share, against \$5,234,947, or 67¢, for the second quarter in 1960. Net income for the first six months ended June 30, 1961, was \$8,252,181, or \$1.06 per share, compared with \$10,218,000, or \$1.31, for the same period in 1960.

Fraser Cos. Ltd. reports profits for

the first six months of 1961 were \$1,229,138, or 55¢ per share, compared with \$1,715,159, or 77¢ per share, for last year's first half. Aubrey Crabtree, chairman and president, notes that the quantity of pulp, paper and board shipped during the second quarter of this year was about 17% greater than what was shipped during the same time last year. However, operations continued at less than normal capacity during the second quarter in the company's Madawaska, Maine, mill which makes papers from bleached chemical fibers, and also in

its board mill at Edmundston, N.B., and in its bleached sulfite mill at Atholville, N.B. The company's groundwood specialty mill at Madawaska and its unbleached kraft mill in Newcastle, N.B., operated at normal capacity.

Of interest: Fraser is installing coating equipment in its Edmundston paperboard mill. Mr. Crabtree says the reason for the move is to meet the demand developing in Canada, which for the most part is supplied by imports of coated board from the U.S. ■

"Seniority" issue in Finch, Pruyn strike

Company wants right to weigh ability in promotions

By ALBERT W. WILSON, Editor, PULP & PAPER

GLENS FALLS, N.Y.—Following an orderly shutdown in which the mill was left in excellent condition by the workers, Finch, Pruyn & Co., Inc., ceased operations indefinitely on July 15, because of a strike in which six unions are participating.

Major points at issue are wage adjustments and seniority provisions incorporated in a two-year agreement as proposed by the company. The management wishes to insert provisions which, according to a letter that Harry E. Earl, plant manager, addressed to the six union locals and their national offices, are the same as "appear in agreements between the unions and seventeen (other) paper mills in this general area."

The company asks for a provision allowing it to consider ability, as well as seniority, in promotions.

"We can only . . . keep the company sound . . . by putting the right man on the job," wrote Mr. Earl.

A seniority clause which recognizes individual skills and experience as well as length of service is needed, in his view. He said that in 90% of cases in the past the man with the most seniority has been selected, and Finch, Pruyn expects the percentage would be at least as high in the future.

Countering spreading rumors that firings would be taking place, Mr. Earl declared that "there is absolutely no intention on the part of management to remove anyone from his job," and he pointed out that machinery is already provided in the union contracts to prevent this.

"What is necessary in the orderly

running of this business and in attaining a position of eminence in our new field of quality paper is the selection of people for *open* jobs," he said.

Finch, Pruyn's president, Lyman A. Beeman, told PULP & PAPER that he was hopeful that the old and loyal employees in the mill would understand the company position on this point and be able to quiet the rumors and bring about an early settlement.

He said the offer made by the company is equal to or better than agreements put into effect in mills with which Finch, Pruyn is competing, and with other mills in the area.

Union Tells Its Side of Strike Story to Public

During the strike, the unions opened an office on the main street of Glens Falls for disseminating literature and projecting their side of the story to the citizenry. Here is a technique in a union-management contest which poses a serious dilemma for this and other industries—how can management cope with, or combat, such tactics where day after day, hour after hour, the public is being deeply propagandized with one side of a strike story? It seems inevitable that such a "marathon-like" method of selling a story is bound to win converts, in effect, by simply wearing them down. For many reasons, management isn't able to do the same thing.

A revised company offer that the unions rejected provided for a general six cents per hour wage increase this year, retroactive to May 11, and another five-cent raise May 14, 1962, plus other benefits.

The unions made considerable point of a recent package settlement of 8.4 cents on the basis of one year at International Paper Co.'s neighboring mills. While they are in different papermaking fields, Finch, Pruyn contended that its two-year offer actually was better.

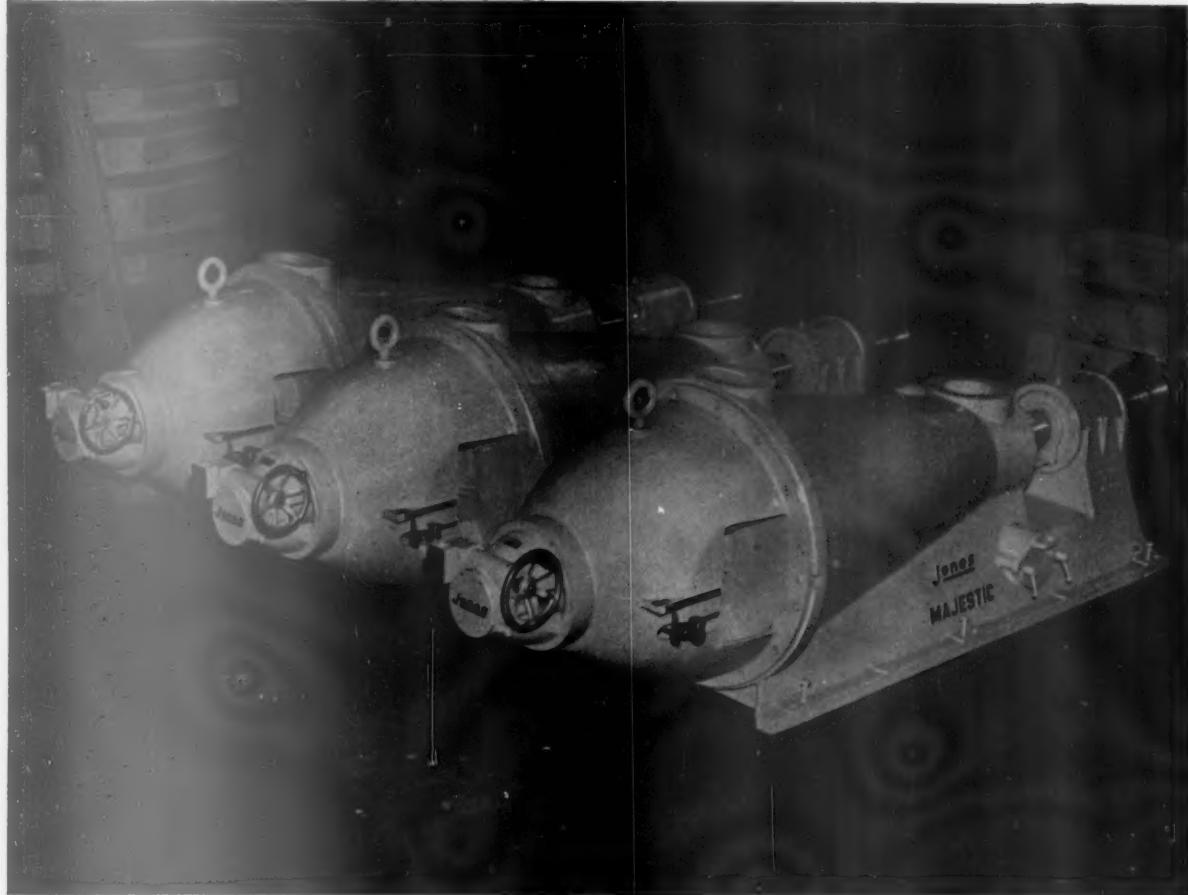
It is no secret in the paper industry, of course, that the two big unions, the Pulp, Sulphite and Paper Mill Workers, and the Paper Makers, which formerly were very cooperative and amicable, and usually "divided" membership "territories" on a friendly basis, now are rapidly becoming very competitive.

This undoubtedly means that each one is pushing harder to outdo the other. This would be quite natural. In northern New York, where both unions have their headquarters, the result of this sharpening rivalry is felt in relations between management and unions, perhaps to a greater degree than elsewhere in the nation.

The Finch, Pruyn mill, from a union point of view, is in the position of being an ideal battleground for these rival groups, since it is the mill closest to both their headquarters. One union has its headquarters at Albany and the other one at Fort Edward; Glens Falls in just between.

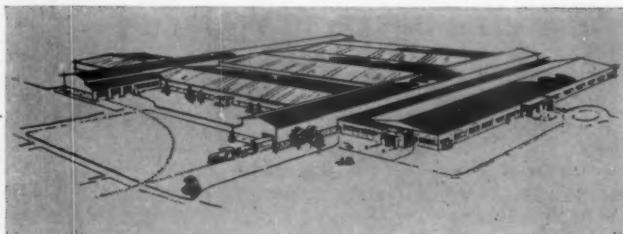
Another trouble spot for the paper mills is the fact that in one of these great unions there is a

New Jones Majestics



... precision built in our new plant for the world's newest mills

Some things are old about these Jones Majestics . . . quality refining results, efficiency of operation and ease of maintenance, for example. But otherwise practically everything else is *new* . . . like the simplified unit shell construction, the base-mounted scale to indicate plug position, the improved design of bearings, packing glands and Accruset adjusting mechanism. They're the first machines off the production line in Jones' new Pittsfield plant . . . and first choice of the world's newest and finest mills. For full details write to E. D. Jones Corporation, Pittsfield, Mass. Ask for Bulletin EDJ-1036.



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PULP MILL EQUIPMENT AND
STOCK PREPARATION MACHINERY

contest looming to develop new leadership. This is because the national head of the union, after many years of outstanding service, is expected to retire soon. In fact, according to many reports, the battle is already quite evident.

Here again, union leaders out to make a reputation and a claim to leadership naturally find that the traditional way for them to do this is to score some "victories" over management. This is regarded as an unavoidable situation which paper mills

must be prepared to face.

These are some of the factors in the Finch, Pruyn strike, which all management in this industry must consider to be fully aware of their competitive problems with the unions, today and in the future. ■

. INDUSTRY GROWTH

Two new machines slated for the South

ATLANTA, Ga.—Just when the Southern paper industry thought it might begin to breathe easily for a while, two new paper machines were announced and plans for the building contract for a projected new 700 tpd kraft linerboard mill were detailed.

A \$8.2 million modernization and diversification program in Crown Zellerbach Corp's Bogalusa, La. pulp and paper mill includes replacement of the No. 2 cylinder paper machine with a versatile and all-purpose specialty machine to produce a variety of bleached kraft paper specialty grades. Start-up is scheduled in 18 months.

Designed to produce a 120-in. trim sheet, the new machine will have a daily capacity of 100 tons and a maximum speed of 1,200 fpm. Basis weights will range from 30 to 150 lb. Stock preparation will include new centrifugal cleaners and pressure screens. Changes will be made all the way back to the pulp mill to support the new additions. CZ is also lengthening the wire on its No. 4 machine to improve quality of its corrugating medium.

More impressive and interesting is the announcement from Crown

Zellerbach concerning St. Francisville Paper Co., which it owns jointly with Time Inc. Here, some \$25 million will be spent on a second paper machine to manufacture double coated printing papers with a capacity of 80,000 tons a year—doubling present capacity.

The St. Francisville mill includes one of the first machines combining blade and conventional roll coating on the machine. Half the mill's production is used by Time and the other half is marketed by Crown in the Midwest, East and South.

Awarding of first building contract for its 700 tpd kraft linerboard mill has been announced by Edward L. Cowan, executive vice president, Southern Land, Timber and Pulp Corp., Cedar Springs, Ga. This will be a 22,000 sq. ft. administration building and the contract has been awarded to Daniels Construction Co. During construction of the \$42 million mill, the structure will serve as headquarters for Southern Land's management force and for the site staffs of the contractors.

Growth of laminating is underscored in news that Wyoming Paper Products Co. plans to expand the scope of its laminating

operation, and has just concluded a contract with Inta-Roto Machine Co. for a unit which will laminate many combinations of paper, cloth, board, film and foils. One industry observer says that Southern mills in particular are "going in for laminating in a big way."

A new paper machine heads the list in the more than \$1.8 million expansion program launched by Port Huron Sulphite & Paper Co. in Port Huron, Mich. The Black-Clawson Co. will build the machine.

Canadian Forest Products, Ltd. has approved plans for its Howe Sound Division at Port Mellon to enlarge capacity by 50% and install facilities to make fully bleached kraft pulp. Present production is about 100,000 tons a year of unbleached and semibleached kraft. Expansion is to be completed by the end of 1962 and will cost about \$12 million. Reason for the move, explains President John G. Prentice, is increasing demands in world markets and to supply this grade as well as its regular unbleached and semibleached grades. Mr. Prentice also reports the Howe Sound Pulp Division's new \$1 million installation for production of 80 tpd of flash-dried pulp was scheduled for startup in late July. ■

BCFP orders new newsprint machine

VANCOUVER, B.C.—Walmsleys (Bury) Ltd., Lancashire, England, will build the 350-ton newsprint machine that British Columbia Forest Products, Ltd., will install at its Crofton, B.C., mill. The machine will be designed to specifications drawn by Beloit Iron Works.

Various factors entered into the selection of this combination, believed to be unprecedented. H. A. Simons, Ltd., consulting engineers for the overall job, has placed several orders in recent years for newsprint machines

and most of them have been Dominion Engineering Co. or Beloit units. Walmsleys has not had a machine order from British Columbia for many years.

The Crofton job is expected to cost about \$25,000,000.

Production target date barring sudden change in the market situation, is the summer of 1964.

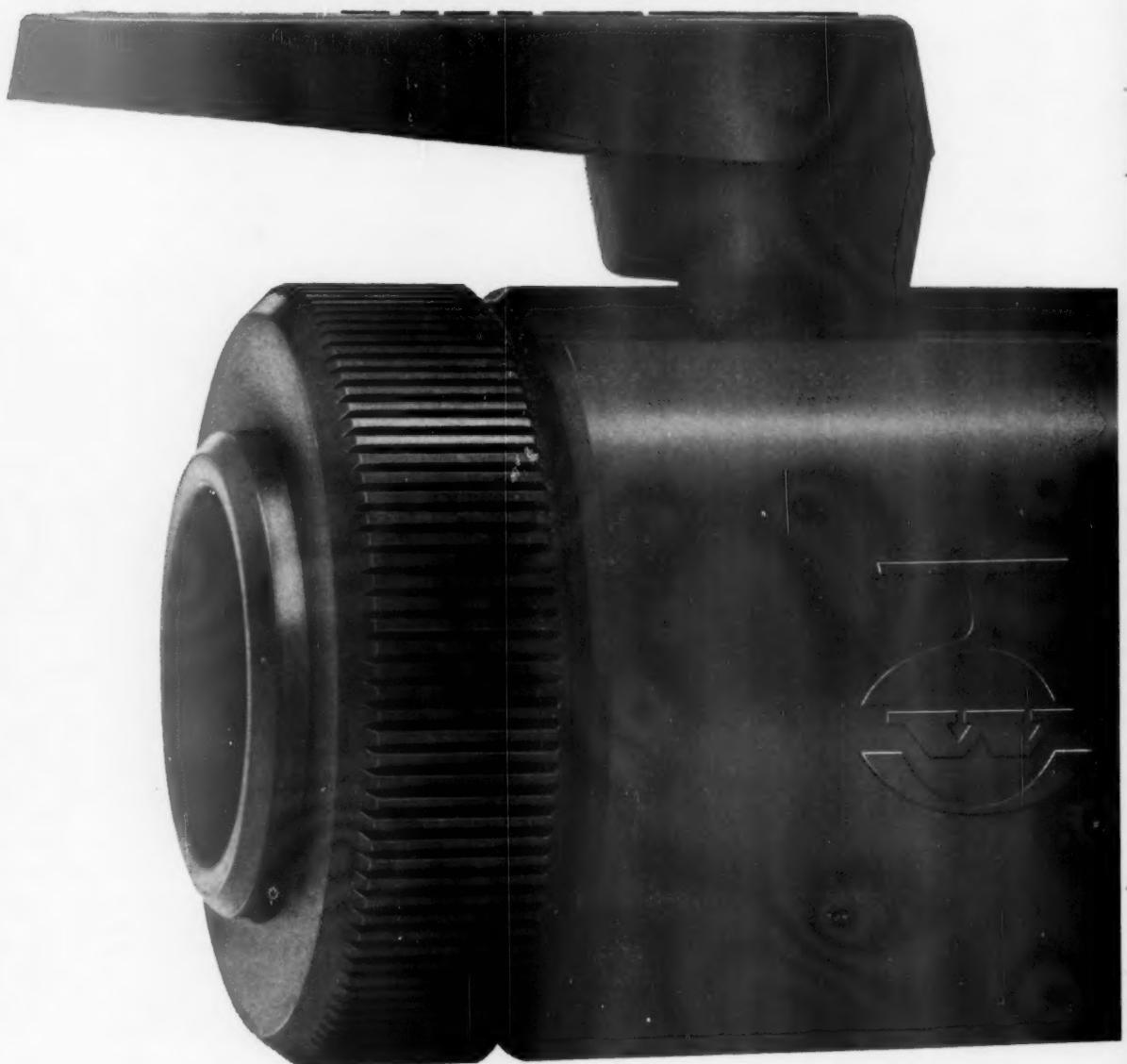
The machine will produce paper 264 in. wide and will have a rated operation speed of 3,000 fpm. Various

features are being incorporated into the machine to make it rather exceptional. There will be two corrective air caps on the dryer, double calender stacks, and a Beloit headbox.

The new Dominion No. 5 machine being installed for MacMillan, Bloedel & Powell River at Port Alberni is a 320-in. model.

MacMillan, Bloedel & Powell River have placed an order with Canadian General Electric, for what is believed to be the largest electrical paper machine drive ever built in Canada. ■

NEW... WALWORTH PVC BALL VALVE



...WITH REALLY LONG LIFE BUILT IN

Here's the ball valve that beats them all on longevity—the Walworth Polyvinyl Chloride Ball Valve.

With its super-rugged construction, this valve is on the line to stay! □ When you handle tough, corrosive fluids, and want fast, tight shut-off get Walworth PVC Ball Valves. Your Walworth distributor can recommend from the most complete line of PVC Valves and fittings available today.

■ *Only Walworth offers all these long life features in a PVC Ball Valve:* **1. Full port opening.**

Ball port is same nominal I.D. of the pipe itself. Full flow. Minimum turbulence. **2. Single-**

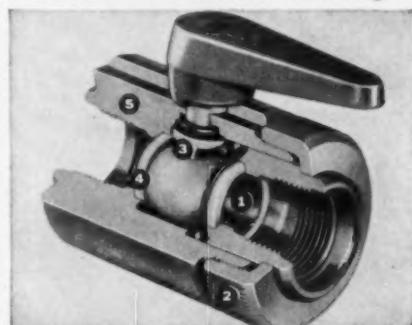
end, external adjustment. Holds operating torque to the minimum. Ball rotates at a fixed location.

Maintains alignment. **3. Rugged stem-to-ball**

construction. Assures quick, positive shut-off every time. Built to last through 250,000 cycles ... equivalent of 80 years of normal service! **4.**

Teflon seat rings. Fully supported to provide leak-proof seating. High corrosion resistance. **5. Type**

I normal impact PVC. Corrosion-resistant, non-aging. Non-toxic. Non-flammable. Extra rugged construction. Write for bulletin 196. • Walworth Co., 750 Third Ave., N. Y. 17, N. Y.



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The Walworth Companies: Alloy Steel Products Company • Conoflow Corporation • Grove Valve and Regulator Company • M & H Valve and Fittings Company • Southwest Fabricating & Welding Co., Inc.

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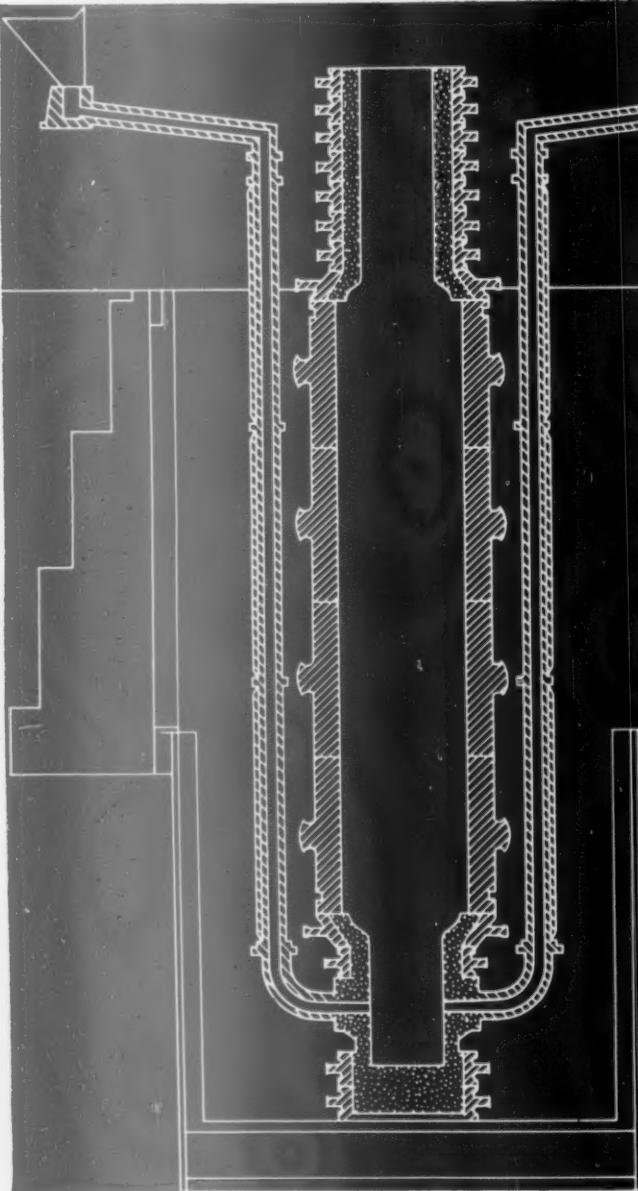
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Progress...Leadership

.... INDUSTRY GROWTH

Packaging Corp. expands to hike earnings

NEW YORK—Packaging Corp. of America plans major expansion of its plastics and container facilities to bolster earnings this fiscal year—its third year of operation.

W. D. P. Carey, president, recently told a meeting of the New York Security Analysts that the company will add \$14,000,000 to sales in 1961-62 and boost earnings 65% to \$1.65 per common share—"assuming continued improvement in the nation's economy." Basis for his optimistic forecast, Mr. Carey said, is a more equitable price for paper and an anticipated increase in demand.

Mr. Carey said that the fiscal year ended June 30 "bracketed the worst period that the paperboard packaging business has seen since the '30's."

Earnings during the company's second year were \$4,090,000 on sales of \$128,700,000, or \$.97 per common share. Sales the first year of operation were \$138,278,790, with earn-

ings at \$6,510,000, and return at \$1.64.

But the inventory reduction—or price-cutting—phase of the recession has about run its course, Mr. Carey declared. "Packaging Corp. does not subscribe to the fallacious idea that price-cutting to get volume without regard to cost is a panacea," he explained. "Although we may have lost some volume by doing so, we have undertaken to maintain a realistic pricing policy based on the concept of profitability."

As part of its plan to capture a bigger share of the plastics packaging market, Packaging Corp. will spend \$550,000 this fiscal year to find new applications for strong polystyrene-fiber products. The company recently acquired the Worcester Moulded Plastics Co. in Massachusetts, the plastics division of Lakeside Mfg. Co. at Milwaukee, Wisc., and, most recently, a foam plastics operation at

Akron, Ohio. It also recently started up a plastics packaging plant at Vincennes, Ind.

Future moves outlined
by Mr. Carey to bolster income are:

Extension of the company's container plant network into the Southwest and Southeast, where the packaging industry reportedly shows most growth.

Doubling moulded pulp product production, principally egg packaging, and fruit and vegetable trays, with the opening of a plant in 1962 at Berkeley, Calif. Production was doubled last spring when facilities at Griffith, Ind., were expanded.

Enlargement of its bleached kraft mill at Filer City, Mich., at a cost of \$2.5 million, including a larger bleached kraft finishing room, more warehouse space, a heat recovery system and additional equipment for finishing and coating operations. ■

.... PRODUCTION

Midyear production at 17.4 million tons

NEW YORK—The paper industry appears to be headed for a new production high, although its operating rate may not top last year's, since its capacity is higher.

At midyear, production of paper and paperboard was an estimated 17.4 million tons, the American Paper & Pulp Assn. reports. Although production was down 2% from last year, the economic upswing may boost total 1961 production to 34.5 million tons or higher.

Paper production for the first six months of this year was about 7.8 million tons compared with 7.9 million tons for the same interval in 1960. Paperboard output was about 8.1 million tons, within 1% of last year's, APPA says.

Pulp production for the first five months of this year was about 10,697,609 tons compared with 10,713,004 tons for 1960, U.S. Pulp Producers Assn., Inc., reports. Shipments to the domestic market were down about 6% to 773,892 tons, while exports were up 17%, climbing still higher from 1960's 424,400 tons to 496,920 tons. Shipments to Latin America went from 46,426 tons to 66,416 tons, a 43% increase. European shipments

were up 12%, moving from 257,483 tons to 287,613 tons. Exports to Asia, Africa and the Pacific were up 24%, from 95,590 tons to 118,809 tons.

Market pulp consumption for the first five months was about 1,122,117 tons, according to the Assn. of Pulp Consumers. This was a drop of about 98,324 tons, or about 8.1% from the 1,220,440 tons for the same period last year. Integrated mills used 493,053 tons this year, compared with 520,727 tons last year, a drop of 5.3%. Non-integrated mills used 629,064 tons this year, compared to 699,334 tons in 1960, a 10% decrease.

Folding carton shipments for the second quarter of 1961 were 7% ahead of the first quarter and almost even with the dollar volume recorded in the second quarter of 1960, the Folding Paper Box Assn. of America reports. Although tonnage of cartons shipped in June of this year was only 100 tons under the same period last year, dollar volume slipped \$1 million. Industry volume for this June is estimated at \$81.7 million, against \$82.7 million in June, 1960. Second quarter volume equaled last year's \$235.2 million, with the first six months volume

of \$455.7 million falling \$12.5 million behind the same period in 1960. June tonnage was about 203,500 tons.

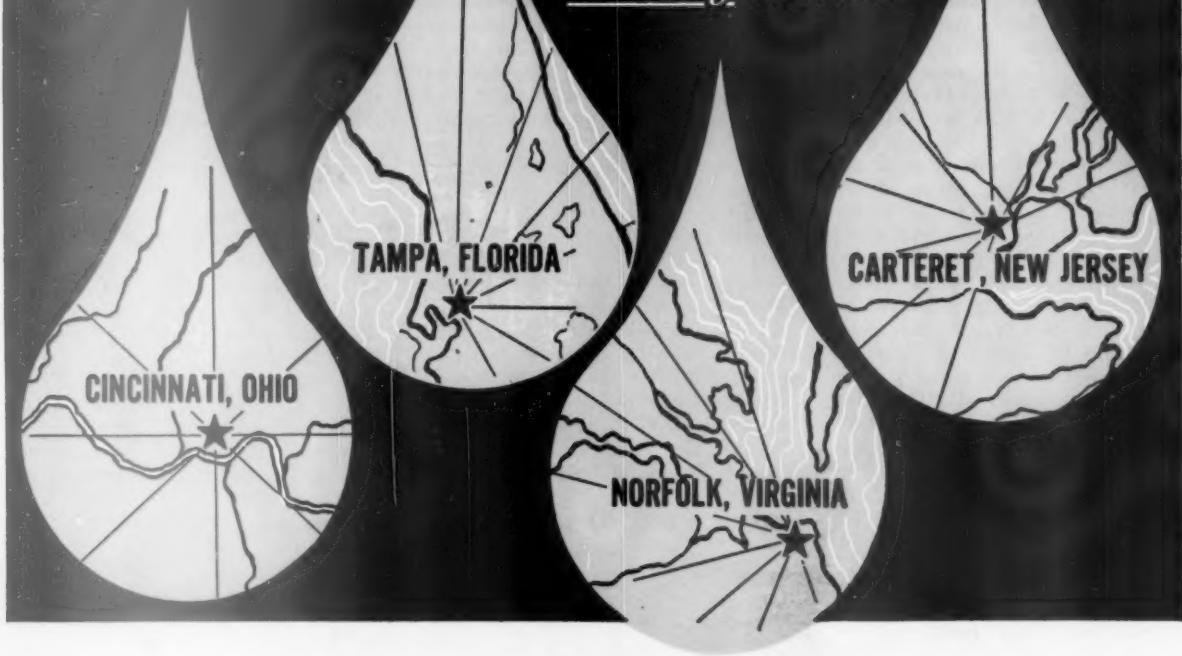
New orders for folding cartons in the second quarter of this year were up 3.8% in dollar volume and 4.5% ahead in tonnage over last year, with the total for the year being almost equal to new orders entered in the first six months of 1960.

Newspaper production in North America for the first six months hit an all-time peak of 4,376,471 tons, about 1% above the same period last year, the Newsprint Service Bureau says. Output of U.S. mills through June was record 1,048,166 tons, representing an increase of 26,075 tons, or 2.6% more than 1960 in output. Canadian production amounted to 3,328,305 tons, up 0.5% or about 15,800 tons more than the first six months of last year.

Paperboard production through the week of July 8 reached 8,333,323 tons, while the industry operated at a rate of 90%. Containerboard production for domestic use was 4,217,416 tons; domestic boxboard production was 2,578,331 tons, including 797,536 tons of special foodboards. ■

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Bark pellets save 17.5 tpd of coal

KNOXVILLE, TENN.—The Southern Extract Co. here is successfully shredding, drying and pelleting bark for burning as fuel. The pellets formed by the new process give burning rates equivalent to soft coal.

A processing system, designed by Sprout, Waldron & Co., Inc., consists basically of a hammermill for shredding the bark, a special flash-drying system, pelleting equipment, and the necessary materials-handling units for

conveying and storing the pellets, as well as for blending the pellets with coal. The operation is said to be continuous and completely automatic, and requires one operator for supervision and maintenance. ■

Automated pulp digestion now possible

NEW YORK—A paper company is studying the possibility of completely automating a continuous pulp digester, with a digital computer system.

The system would be built by Westinghouse Electric Corp.

T. Fort, vice president of Westinghouse's apparatus marketing division,

disclosed here recently that discussions are under way between the two companies. He did not name the paper company.

He said Westinghouse is now able to engineer a master control system that is capable of "simulating the pulp digester process in precise terms . . ." Primary advantage of automation is

that it will make possible "better, more uniform quality," according to Mr. Fort.

The digital computer is based on a system of two-digit addition.

Westinghouse predicts that eventually around-the-clock computer control of the entire pulp and paper making process will be possible. ■

.... PULPWOOD MANAGEMENT

Opposition shifted on wilderness bill

Other news: deer overbrowsing, tree planting and weight scaling

WASHINGTON, D.C.—Accentuate the positive—this is the position of the American Pulpwood Assn. as Wilderness Bill S. 174 nears Senate debate. An amended version of the bill, approved July 13 by the Senate Committee on Interior and Insular Affairs, still gives only negative power to Congress—requiring approval of an executive order on wilderness. Since most industry leaders believe some form of the bill will pass, the APA will ask a further amendment giving the veto power—positive action, when necessary—to either house.

The APA is still voicing previous central opposition—that legislation now would be superfluous and premature in light of a wilderness report due Jan. 31 from the Outdoor Recreation Resources Review Commission.

can be aware of forest exploitation by deer.

Pulpwood payments to nearly 500 persons totaled more than \$400,000 last year under the local purchase program of Consolidated Water & Power Co., Wisconsin Rapids, Wis. The average payment on 7,200 truckloads, or more than 26,000 cords, was about \$850, but amounts ranged from \$39.22 to \$6,863.83.

Weight scaling of pulpwood logs has been introduced on a limited scale at Cornwall Div., Howard Smith Paper Mills, Ltd., Ont. Many Southern mills have used this system for several years, but Cornwall is believed the first Canadian mill to switch from the volumetric standard. Although scaling is a controversial industry question, weight scaling is said to promote shorter delivery time to avoid dollar losses through evaporation of water content in wood.

Southern tree planting has been surveyed in an 11-state area by the Southern Pulpwood Conservation Assn. The report shows that the pulp and paper industry planted 386,427,621 forest tree seedlings in the South during the 1960-61 season.

About 62% was produced in 19 industry operated nurseries. The breakdown:

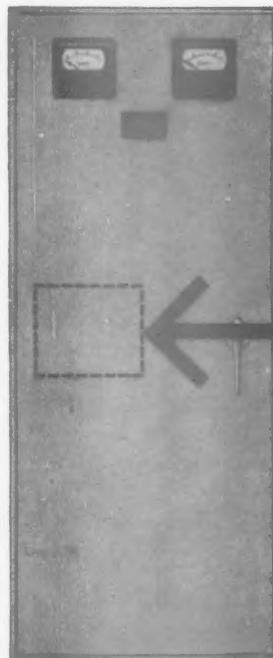
States	Trees planted
Alabama	50,724,245
Arkansas	5,866,000
Florida	91,285,146
Georgia	78,761,200
Louisiana	21,174,503
Mississippi	29,673,217
North Carolina	35,753,610
South Carolina	21,302,600
Tennessee	12,740,000
Texas	20,340,200
Virginia	18,806,900

Cyclic lighting a new method of applying artificial light to greenhouse plants—has effected 95% electrical savings and has increased plant growth during experiments at the research center of the U.S. Dept. of Agriculture, Beltsville, Md.

Light was introduced in cycles for 3-5 hours a night, sometimes for only 12 minutes total. These periods of contrasting light and darkness achieve the same plant growth as systems now using four hours of continuous light a night. Cyclic lighting will enable growers to speed up production, up to now possible only on a limited basis with certain species. ■

Overbrowsing by deer can result in wholesale ruin of forests and it is the hunter's responsibility to recognize and report overbrowsing. The relationships between timber and deer harvests are discussed in an illustrated booklet available from New York Forest Industries Committee. Young forest growth after harvests provides the best deer food, the booklet says, and shows how the hunter

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protects synchronous motors against damage by locked rotor or excessively-long starting conditions. This circuit may be quickly and easily added to your present static units.

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These features, added to the basic Westinghouse exclusive Static Slipsyn control make Static Slipsyn more than ever, the best control available. Its advantages:

Most accurate synchronization system available—accuracy up to 99% of synchronous speeds — not affected by machine vibrations.

Adjustable pull-out protection—eliminates nuisance tripping due to transient conditions — easily adjusts from the front — can be set to re-synchronize or shutdown on actual pullout.

No maintenance — completely static transistorized synchronizing system — uses no moving parts — components are impervious to humid, corrosive or dirty atmospheres — there are no relays to burn, pit, inspect or repair.

Applicable to all synchronous motor starters—same sized package for all applications — for both high and low voltage — whether for new motor installation or for relay replacement.

For additional information on the advantages of Static Slipsyn Control for synchronous motors in *all* manufacturing operations, call your local Westinghouse sales engineer or write to: Westinghouse Electric Corporation, General Purpose Control Department, P.O. Box 2025, Buffalo 5, New York.

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IP assigns Ward, Dalsemer to new posts

NEW YORK—George T. Ward, vice president, International Paper Co., has been designated vice president i/c manufacturing for the company's pulp and paperboard operations in the U.S. Leonard Dalsemer, vice president of IP and chairman of its subsidiary, Lord Baltimore Press, moves his headquarters to IP's executive offices here in New York to assume special administrative duties.

Before coming to New York in 1959, Mr. Ward had been chief engineer of the Southern Kraft Division in Mobile, Ala.

Mr. Dalsemer has been associated with Lord Baltimore Press since 1928, established its first New York sales



WARD



DALSEMER

office in 1929, has served as first vice president and executive vice presi-

dent. He became president of Lord Baltimore and an IP v.p. in 1958. ■

Waldorf-Hoerner names key personnel

MISSOULA, MONT.—Four key appointments for Waldorf-Hoerner Paper Products Co., woodpulp and paper operations here, are announced by Nels H. Sandberg, president and general manager of the company:

U. J. Westbrook, resident manager.

William C. Hodge, assistant secretary.

Stuart Nicholson, assistant treasurer. Donald Nicholson, chief chemist.

Mr. Westbrook, a veteran of the kraft pulping industry in Southern U.S. and Canada, is a newcomer who came here recently in a consulting capacity. He had previously retired as manager of kraft pulp and paper manufacturing for St. Regis Paper Co., and was living in Pensacola, Fla., when Mr. Sandberg invited him to this far western mill, 13 miles north of this city.

He was involved in kraft developments in Florida and elsewhere in the U.S., and had charge of the technical phases in the building and start-up of the Kamyr continuous cooking Hi-Brite kraft pulp mill built recently at Hinton, Alberta, by St. Regis.

Mr. Hodge, with Waldorf-Hoerner since 1957, is a graduate of Syracuse U. in civil engineering, and Montana State U. in forestry. He was with the U.S. Forest Service six years and with Tree Farmers Inc. of Missoula for six years. He has been in charge of purchasing and traffic departments at Waldorf-Hoerner. He is well known in Montana lumber circles, source of chip supply for this mill.

Stu Nicholson came to Waldorf-Hoerner in 1960 and has served as



WESTBROOK



HODGE



S. NICHOLSON



D. NICHOLSON

auditor and is in charge of the cost accounting department. He is a graduate of Montana State U. in accounting and business administration.

Don Nicholson is a graduate of Montana State U. in chemical engineering and had been with Crown Zellerbach before joining the Missoula staff about a year ago.

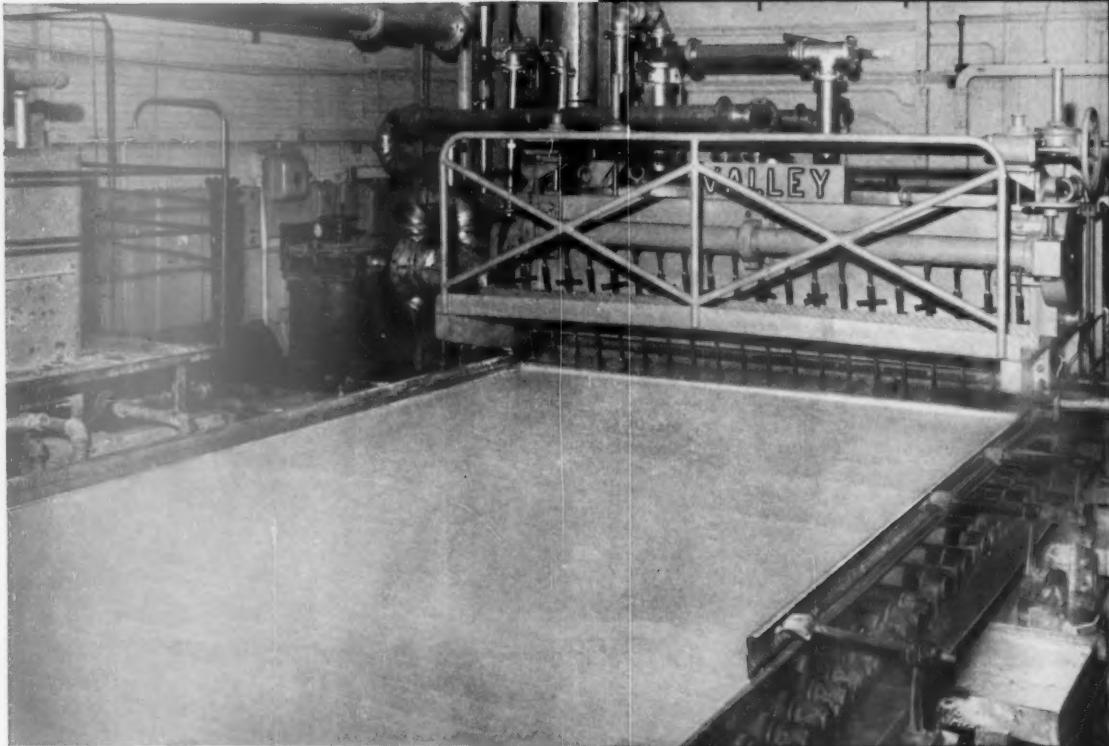
Mr. Sandberg built a unique pulp mill here a couple of years ago, the first in the world to make a chemical

pulp by a continuous gas-flame drying process, and to bale the pulp so compactly that no straps were needed. This is the portion of the pulp sent to the St. Paul mill of Waldorf Paper Products Co. (see PULP & PAPER, March 1960). Waldorf joined in a partnership with Hoerner Boxes Inc., Keokuk, Iowa, and added a paper mill with a Beloit 176-inch Fourdrinier board machine. ■

Continued on page 54

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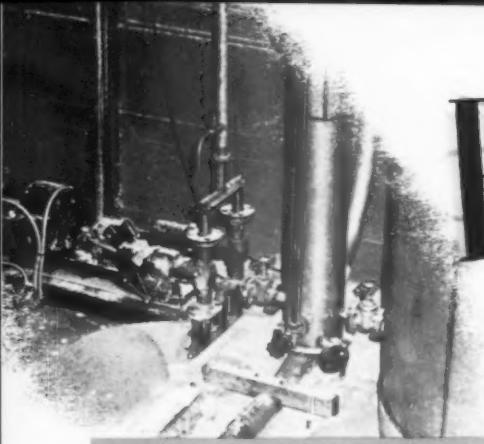
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VALLEY



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Paper prefers Peroxide...

PAPER MAKERS are constantly seeking new and better ways to make paper whiter, brighter and stronger. And Becco Hydrogen Peroxide is helping spur progress in papermaking. Here's how we worked with three major pulp manufacturers to increase mill efficiency, improve paper quality, and cut costs—through new systems using Becco Hydrogen Peroxide:

A modern cold soda pulping facility is operated by Packaging Corporation of America. In its Filer City, Michigan plant, bleaching of the caustic-impregnated pulp is done in disk refiners using Becco Hydrogen Peroxide. This process provides an economical method of treating hardwoods which would otherwise be too dark for use.

Or consider Continental Can Company's latest project . . . a 350-ton capacity pulp and paperboard

mill in Augusta, Georgia. It incorporates Becco's Refiner Bleaching Process in which the cold soda pulp is bleached by metering Becco Hydrogen Peroxide to the chips as they enter the refiners. The pulp brightness is increased about 20 GE points.

At the Keyes Fibre Company, Shawmut mill, Becco engineers spent several years developing the advantages and cost savings possible through installation of a new simple single-stage high density Hydrogen Peroxide bleaching system. Adaptability of high consistency bleaching to Keyes' "crumb" method of handling pulp was one of the deciding factors in its selection. Result: Savings on equipment and greater output per unit of space.

Can your pulp use a little assistance from Hydrogen Peroxide? Becco will be glad to provide you with technical data through a survey and estimate of your needs. Write to us at Dept. PP-61-9.



No Fish Story Here!



Men are natural exagerators when they describe the results of their fishing trips. Let them catch a minnow, and they bring home a whale! Becco, on the other hand, bends over backwards to assure accuracy in the delivery of specified quantities of hydrogen peroxide to its customers.

Thoroughly cleaned and carefully inspected aluminum drums are placed singly on Howe or Toledo scales; the reading is set at zero. The drums are filled

with filtered hydrogen peroxide until the scale shows the labelled shipping weight. Carboys are handled similarly. These scales are inspected monthly by representatives of the scale company to maintain accuracy.

At our Buffalo plant, a Howe Track Scale and Type Registering Weighbeam is used for weighing tank cars and tank trucks. In the case of a tank car, the vehicle is placed on the scale, weighed, and a record is made of the tare weight. Filtered hydrogen peroxide is pumped into the car until it is filled to the base of the dome. It is then inspected, since the load, if not filled to the exact height, can cause the car to oscillate dangerously when it is in motion. The car is sealed and weighed. The difference between the two readings is the weight of hydrogen peroxide in the tank car. Finally, Becco's accounting department and the railroad receive copies of the printed records. The scales used are inspected and tested four times a year, and no inaccuracies have ever been reported.

The weighing of tank trucks is handled with similar care to ensure accurate delivery, and a weight certificate is furnished to each customer.

So, the fishermen have their stories, and we have ours—and ne'er the twain shall meet!

MORE than a third of a century of experience shows! Ever since it was founded 36 years ago, Becco has devoted its time and energy to the manufacture of hydrogen peroxide and to research in its application. Today, Becco provides industry with 10 additional peroxygen chemicals based on electrolytically-produced hydrogen peroxide.

Becco serves many industries—textile, paper, plasticizers, cosmetics, metal finishing, and is even doing its share in the fields of missile guidance and propulsion. The broadened use of peroxygen chemicals owes much of its present state to Becco's Research and Development staff which continuously studies customers' needs in an effort to keep pace with today's—and tomorrow's—world.

The technical "know-how" of our chemists, engineers, and technical fieldmen is available to you. Their experience has been condensed in a series of technical bulletins. A few are listed at right. If you find any of interest, just drop us a line on your letterhead and ask for the ones you want by number. We'll be happy to oblige.

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Product Descriptions

1. ACTIVE OXYGEN CHEMICALS
2. HYDROGEN PEROXIDE
3. HIGHLY CONCENTRATED H_2O_2
4. PERACETIC ACID 40%
5. SODIUM CARBONATE PEROXIDE
7. ALKALINE EARTH METAL PEROXIDES
8. SODIUM PYROPHOSPHATE PEROXIDE
10. UREA PEROXIDE
11. POTASSIUM PERSULFATE
41. BECCO H_2O_2 35% HP
42. BECCO H_2O_2 35% FORMULA D
45. SODIUM PERBORATE
46. CONCENTRATED H_2O_2
49. AMMONIUM PERSULFATE
70. BECCO HYDROGEN PEROXIDE 98%

Properties, Reactions, etc.

24. ANALYSIS OF ALIPHATIC PEROXIDS
34. USES OF PERSULFATES
40. EQUIPMENT FOR USE WITH HIGH-STRENGTH HYDROGEN PEROXIDE
55. STABILITY OF PURE HYDROGEN PEROXIDE
59. THE ANALYSIS OF H_2O_2 SOLUTIONS
62. HYDROGEN PEROXIDE VAPOR
68. USES OF PERSULFATES
87. THE BEHAVIOR OF THE GLASS ELECTRODE IN HYDROGEN PEROXIDE SOLUTIONS
93. ANHYDROUS HYDROGEN PEROXIDE AS A PROPELLANT

BECCO Hydrogen Peroxide

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MEETINGS

... August

TAPPI Lignin Symposium, Edgewater Beach Hotel, Chicago—Aug. 14-16
TAPPI Testing Conference, Queen Elizabeth Hotel, Montreal—Aug. 15-18
PIMA New York-Canadian Div., Saranac Inn, Upper Saranac Lake, N. Y.—Aug. 31-Sept. 2

... September

TAPPI, 11th Corrugated Containers Conference, St. Francis Hotel, San Francisco, Calif.—Sept. 6-8
CPPA, TAPPI, Fourth International Mechanical Pulping Conference, Edgewater Beach Hotel, Chicago—Sept. 19-21
Northeastern Div. PIMA, Poland Spring House, Poland Spring, Me.—Sept. 21-23
British Paper and Board Makers Assn., International Fiber Bonding Symposium, Oxford, England—Sept. 25-29

... October

TAPPI Deinking Conference, Hotel Harris, Kalamazoo, Mich.—Oct. 4-6
PIMA Conn. Valley-TAPPI N.E. Section Joint Conference, Equinox House, Manchester, Vt.—Oct. 5-7
Water Pollution Control Federation 34th Annual Technical Meetings and Manufacturers' Exhibits (with Industrial Wastes Forum and Sessions), Milwaukee Auditorium and Schroeder Hotel, Milwaukee, Wis.—Oct. 8-12
TAPPI, plastics paper conference, French Lick Sheraton, French Lick Springs, Ind.—Oct. 9-11
Southeastern & Southern Divs., PIMA annual fall joint meeting, Jung Hotel, New Orleans, La.—Oct. 11-13
Pennsylvania - New Jersey - Delaware PIMA, fall meeting, Claridge Hotel, Atlantic City, N. J.—Oct. 12-14
TAPPI Annual Engineering Conference, Shoreham Hotel, Washington, D. C.—Oct. 15-19
National Safety Congress, annual meeting, Hotel Hilton, Chicago, Ill.—Oct. 16-20
Packaging Institute, 23rd Annual National Packaging Forum, Biltmore Hotel, New York—Oct. 18-22
PIMA, Miami Valley Div., annual meeting, French Lick Sheraton, French Lick, Ind.—Oct. 19-21
National Paper Trade Assn. fall convention, Conrad Hilton Hotel, Chicago—Oct. 22-25

... November

TAPPI, Annual Alkaline Pulping Conference, Rice Hotel, Houston, Texas—Nov. 1-3
Pacific Coast PIMA annual fall meeting, Olympic Hotel, Seattle, Wash.—Nov. 30-Dec. 2

NASH

Paper Mill Vacuum Pumps
Designed for Every Desirable
Quality, and the First of these is
DEPENDABILITY



When just 3 days lost production on a paper machine can cost more than the vacuum pumps, dependability is the vital factor in pump selection.

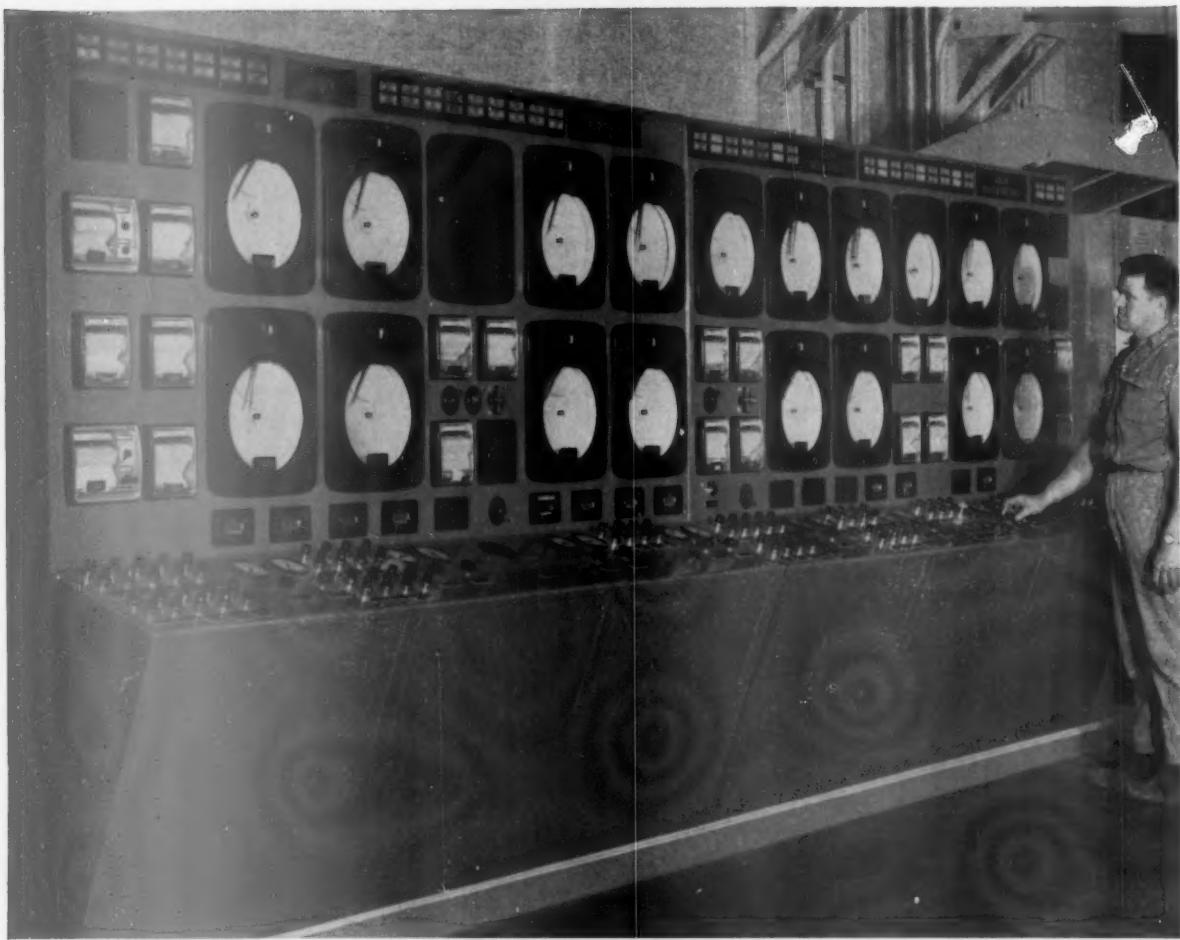
Nash Vacuum Pumps are dependable because they are built big enough and heavy enough to stand the pounding of around the clock production, day in and day out. They are reliable because they have only one moving part, and that rotating without wearing metallic contact. They are reliable because the heavy duty ball bearings are located outside the pump casing where they are accessible. They are reliable because they operate at the low speeds necessary for long life and reliable operation.

Nash Vacuum Pumps have been proving their ability to insure uninterrupted production in leading paper mills for nearly a half century. Install them and be safe.

The new Nash 5308-A shown above, has four separate suction inlets, each of which functions independently of the others. This offers the machine operator great flexibility, since these may be used in any desired combination to produce a variety of capacities and vacuums.

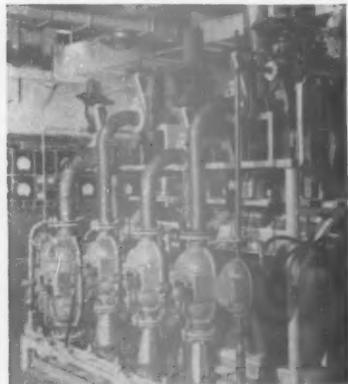
NASH ENGINEERING CO.

South Norwalk, Connecticut, U.S.A.



Foxboro Stock Blending Control Panel for Fraser Paper's new No. 7 bond machine at Madawaska, Maine. The system precisely ratios the flow of four stocks, six additives, as well as dyes and alum.

Foxboro Stock Blending Control System had Fraser Paper producing saleable paper the first day they started their new bond machine



Foxboro Magnetic Flow Meters, $\frac{1}{2}$ ", 1", 4", and 6" diameter, measure the flow of stocks and additives to blending chest with an accuracy of better than $\pm 1\%$.

Excellent performance right from start-up has been provided by the Foxboro stock blending control system at Fraser Paper Limited, Madawaska, Maine. Day after day, their Foxboro control system is producing consistent, uniform furnish for Fraser's new No. 7 bond machine.

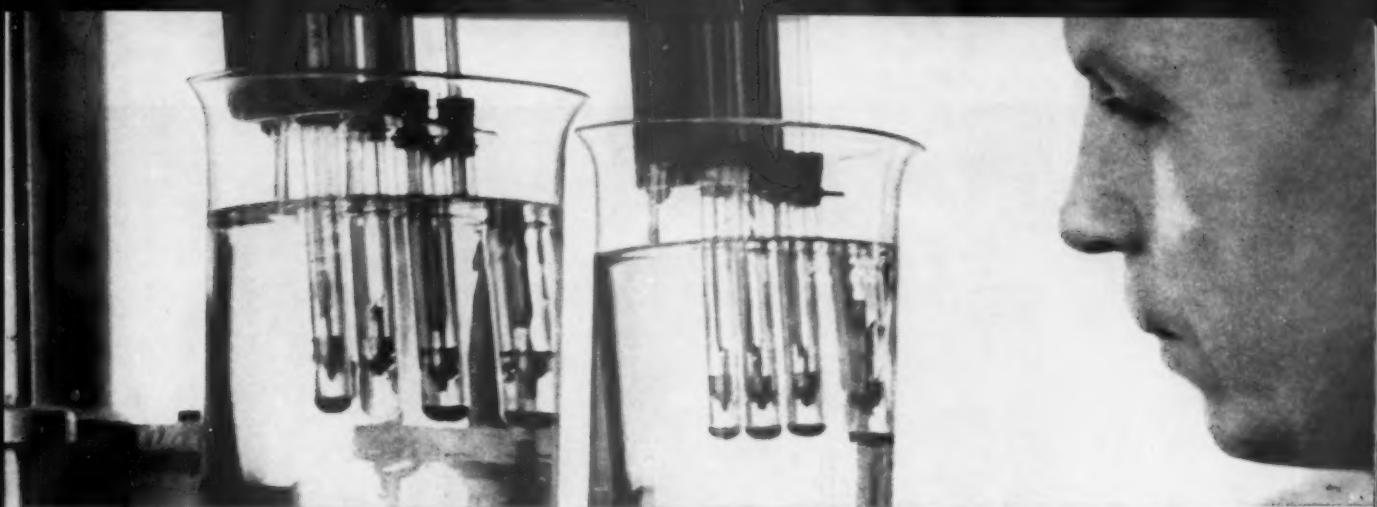
Fraser is averaging several grade changes a day on this machine, many involving changes of furnish. But the operators find it easy to change furnishes with the Foxboro Blending System. They just set the desired stock, dye, and additive ratios. Then, Foxboro

automatically blends stock, dyes, and additives — and controls stock consistency, pH, mixing time, and chest levels as well. The system even adjusts for changes in machine demand while holding all proportions exactly constant.

The result — perfect furnish uniformity for Fraser's No. 7 machine.

Your mill can benefit, too, from the cost-cutting high performance you get right from start-up with Foxboro Stock Blending Control Systems. Write for full details. The Foxboro Company, 998 Neponset Ave., Foxboro, Mass.

FOXBORO
REG. U. S. PAT. OFF.



Dropping point test shows how greases react to heat. Beaker fluid has been heated to 390°F. All greases tested except Darina (second tube from left) have passed from solid to liquid state.

BULLETIN:

Shell reveals the remarkable new component in Darina Grease that helps it save up to 35% on grease and labor costs

Darina® Grease is made with Microgel*, the new thickening agent developed by Shell Research.

Darina lubricates effectively at temperatures 100° hotter than most conventional soap base greases can withstand.

Read how this new multi-purpose industrial grease can help solve your lubricating problems and even save you up to 35% on grease and labor costs.

THREE is no soap in Darina Grease. No soap to melt away—wash away—or dissolve away.

Instead of soap, Darina uses Microgel—a grease component developed by Shell Research.

What Microgel does

Because of Microgel, Darina has no melting point. It won't run out of gears or bearings.

Compared with most conventional soap-base greases, Darina provides significantly greater protection under adverse service conditions.

Mix water into Darina and the

grease does not soften. It shrugs off water—won't emulsify.

Resists heat

Darina will withstand operating temperatures 100° hotter than most conventional multi-purpose greases. It cuts leakage and reduces the need for special high-temperature greases.

Also, Darina resists slumping, thus forming a more effective seal against foreign matter.

Saves money

Shell Darina can reduce maintenance expenses while it protects your machin-

ery. Savings of up to 35% on grease and labor are quite possible.

In some cases lubrication intervals have been extended to double what they were before. Less grease is consumed and less time consumed applying it.

For details, see your Shell Representative. Or write: Shell Oil Company, 50 West 50th Street, New York 20, New York.

*Registered Trademark



A BULLETIN FROM SHELL
—where 1,997 scientists are helping to provide better products for industry



In pulp mill hot acid system

Cast nickel stainless steel "Y" valve . . . resists corrosion for 31 years, is still trouble-free

After 31 years of service on a digester relief line handling hot sulphite liquor, steam and hot SO₂ gas, this cast stainless "Y" valve is as good as the day it was installed.

And this cast valve is expected to give many, many more years of trouble-free service . . . despite operating temperatures up to 270°F and operating pressures up to 50 psig.

Long life cast in. To assure a long service life right from the start, the valve was cast in an alloy equivalent to Type

CF-8M* (19% Chromium, 10% Nickel, 2.5% Molybdenum).

This nickel-containing casting alloy provides a high degree of corrosion resistance and strength, making it an ideal choice for valves and pumps that must withstand the constant attack of a variety of corrosives in the pulp and paper industry.

An entire family of cast austenitic nickel stainless alloys is available today to give you equipment that will resist corrosive attack, protect your

product against contamination, and deliver long, low-maintenance service.

To help you select the right nickel-containing casting alloy, we've prepared a detailed 72-page booklet: "Heat Resistant Castings, Corrosion Resistant Castings . . . Their Engineering Properties and Applications". Just drop us a note requesting Booklet A-266. A copy will be sent to you immediately.

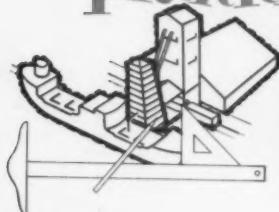
*A.C.I. designation

THE INTERNATIONAL NICKEL COMPANY, INC.
67 Wall Street  New York 5, N.Y.

INCO NICKEL
NICKEL MAKES ALLOYS PERFORM BETTER LONGER

WEST END

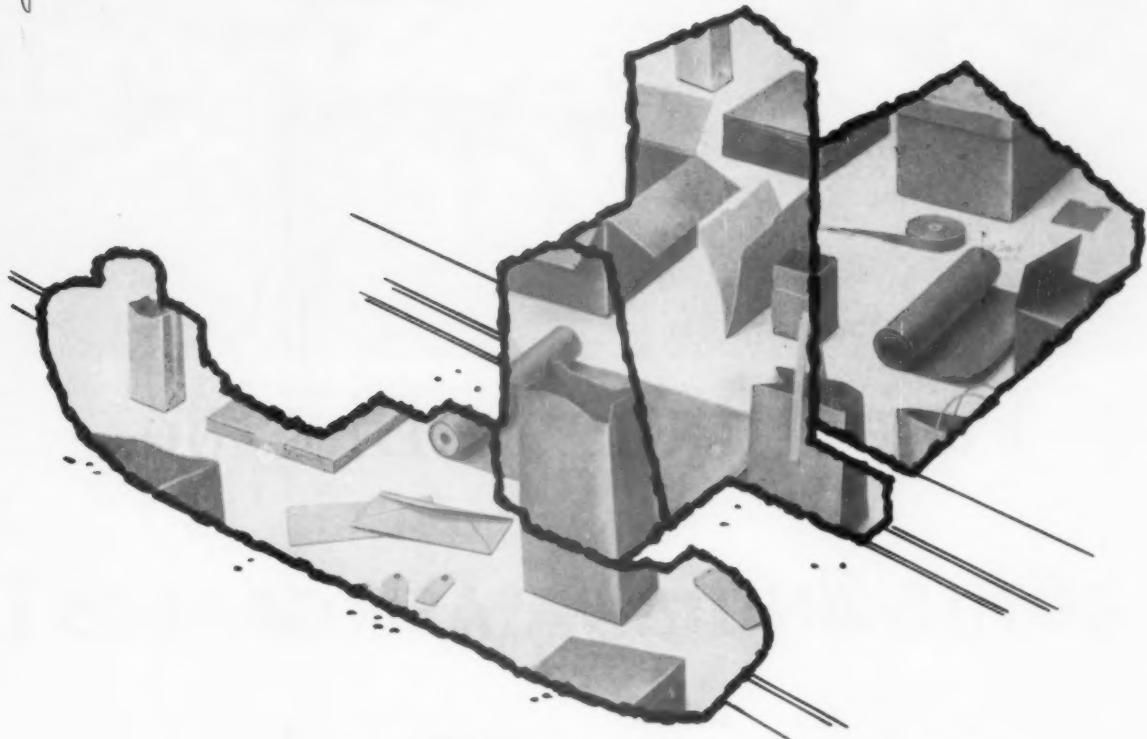
advance planning



OF SALT CAKE STORAGE

DEPOT ANTICIPATES

INDUSTRY'S GROWING NEEDS



 identity as a prime nationwide supplier

of highest quality salt cake is underscored by

Stauffer of Canada storage depot . . . the West End
project that solved the problems of time and cost of other means
of transportation. Customers benefit from reduced inventory
requirements, lower transportation costs and prompt delivery.



WEST END CHEMICAL COMPANY • DIVISION OF STAUFFER CHEMICAL COMPANY

636 CALIFORNIA STREET, SAN FRANCISCO, CALIFORNIA • PLANT: WESTEND, CALIFORNIA



Pure Titanium Dioxide

RUTILE AND ANATASE GRADES

*For maximum
WHITENESS
BRIGHTNESS
AND OPACITY*

**R. T. VANDERBILT
COMPANY, Inc.**

230 PARK AVENUE • NEW YORK 17, N.Y.

August 7, 1961



KEY ADDITIONS AT ST. REGIS MILL: (1) outside species-segregated piles of 7,000-unit capacity for chip storage, (2) new mill for barking-chipping 8-ft. logs, (3) continuous digester, (4) expanded washing and screening facilities, (5) additions to recovery boiler, precipitator, power boiler, (6) new causticizing plant, (7) No. 2 paper machine, (8) new finishing shipping building.

Tacoma's Capacity Doubled

- Rising demand at secondary plants, timber acquisitions are factors behind move
- Total cost of West Coast plant expansion is put by St. Regis at \$30 million

By LOUIS H. BLACKERBY, Western Editor

—Tacoma, Wash.

OVER-ALL GROWTH AND DIVERSIFICATION of St. Regis Paper Co. has brought about profound effects at its western primary plant here. Converting plant demand surpassed the mill's capacity, both as to tonnage and grades produced. With the recent completion of an extensive plant-wide modernization and expansion program, these limitations have been eliminated.

Since St. Regis in 1954 started making corrugated, folding and set-up boxes, its operations in the western states have broadened extensively.

Acquired were Growers Container Corp. (with plants at Salinas and Fullerton, Calif.), Nifty Mfg. Co. (Los Angeles), American Sisalkraft Corp. (Tracy, Calif.), and Cello-Print, Hawaii. St. Regis also pooled interest with Sherman Paper Co., Los Angeles. Besides, it has a new \$1.5 million mul-

tiwall bag plant at Los Angeles, and a \$250,000 container division is now in operation at a separate plant site here.

Three prominent lumber firms were among acquisitions. They are J. Neils Lumber Co., with plants at Libby and Troy, Mont. and Klickitat, Wash.; St. Paul & Tacoma Lumber Co., Tacoma; and Northwest Door Co., Tacoma. These acquisitions increased the company's Pacific Northwest timber holdings to 650,000 acres. They further boosted the organization's pulp-paper production potential by providing captive sources of chips.

These various factors, combined with the company's expansion-integration objectives, were contributing influences in the decision to expand the Tacoma plant to about twice its previous capacity.

The original plant, built in 1928 as a 120 tpd kraft pulp mill of Union

Bag & Paper Corp., was acquired by St. Regis in 1930. Pulp capacity was increased, and subsequently a paper machine was added. When the recently completed expansion was undertaken, pulp production was rated at 420 tpd (150 tons bleached), about 230 tons of which was utilized for making paper and the rest of which was sold as market pulp.

The expansion provides for additional capacity of 325 tpd pulp and 400 tpd paper-paperboard grades. Installations include a multi-purpose second machine, making wide range of weights from 40 lb. papers to 90 lb. board, and expanding-modernizing practically every production segment of the plant. A high degree of flexibility has been incorporated throughout the entire system.

St. Regis Paper's Central Engineering Div., Jacksonville, Fla., functioned as project engineers for the expansion. Rubens & Pratt, Seattle consulting engineering firm, did the design engineering. Walter S. Gordon, Tacoma, handled the electrical design engineering.

Pulp production was improved and expanded by adding facilities to the existing equipment in some areas and installing what is practically a whole new production line. Cooking capacity was roughly doubled by adding a Kamyr continuous digester.

Rated at 325 tpd, the Kamyr is one of the largest to be installed in the industry as a single feed-line unit. Prior to its start-up the plant was dependent on seven stationary digesters.

The new cooking unit is located outside, adjacent to a two-story building housing controls, steaming vessel and auxiliary equipment for the Kamyr. Chips for this unit are stored in one of seven existing silos. A Rader Pneumatics system transports chips from this 250 cord storage to a bin mounted on top of the Kamyr building. From this live storage unit, which has capacity for 20 minutes production, chips are metered into the steaming vessel and on to the digester proper.

Expanding and modernizing the plant operations resulted in considerable change in stock flow and processing. A new three-stage brown stock washer, replacing an old, smaller washing unit, processes stock from the continuous digester. Board stock is handled by an existing three-stage brown stock washer, which was converted to four-stage washing and interstage screening. This was achieved by adding pressure screens to receive stock from a low density blending chest following third-stage washing and by installing a fourth-stage washer for processing the stock subsequent to screening. A compromise between cold and hot-stock screening, this unusual arrangement makes for better

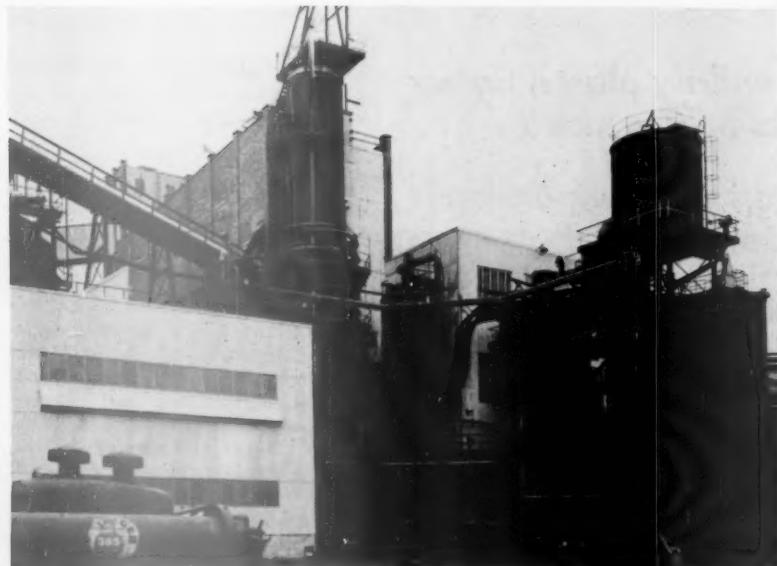
fourth stage washing and makes decking unnecessary.

There are three blow tanks: No. 1, handling cooks from five of the stationary digesters, is for board stock (No. 2 machine); No. 2, serving stationary digesters, is for bleach stock; No. 3 is in line with the continuous digester which cooks paper stock for No. 1 machine.

Extensive engineering and new facilities went into air and water pollution preventives. All black liquor is processed in an oxidation tower to stabilized volatile sulphur compounds prior to evaporation and recovery processing. Three precipitators—one new, another recently rebuilt—operate in conjunction with the recovery boilers, removing over 96% solids from exhaust gases, according to Arvin J. Sorenson, plant engineer. A scrubber installed in conjunction with the plant's single lime kiln removes 96 to 98% of the dust from the kiln gases.

Washing processes, deckers, savealls and screening systems "assure absolute minimum fiber loss" to mill effluent, says Mr. Sorenson. To maintain these standards, mill effluent sewers and receiving waters are monitored constantly. Consequently, the company, through its own effort, is assured of minimum loss from mill recovery processes at all times.

PULP GROUP

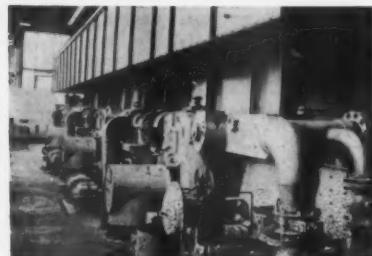


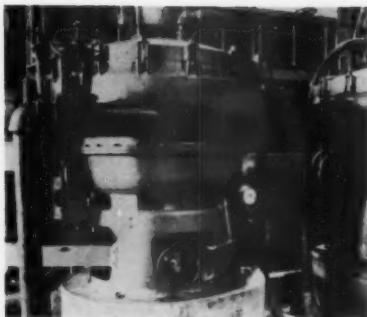
ADDITIONAL COOKING CAPACITY is provided by new 325 tpd Kamyr continuous digester (center); two-story building (left) houses Kamyr control and auxiliaries; blow tank (beneath water tank) and foam tank (right).



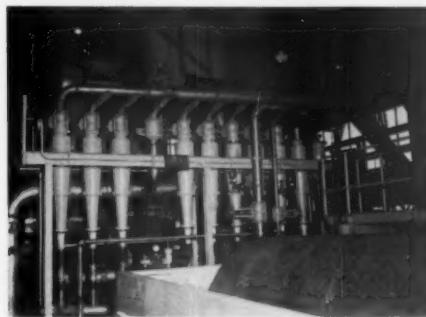
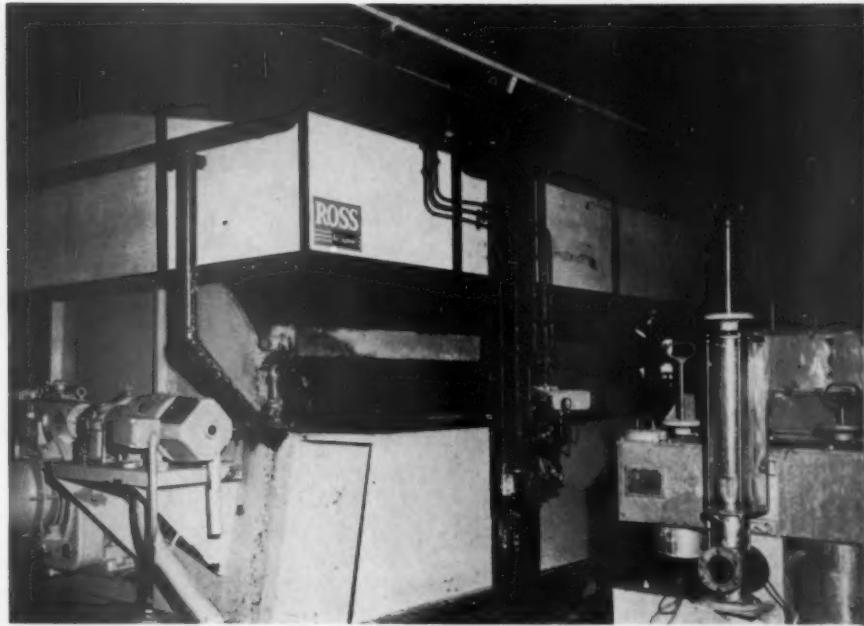
CONTINUES COOKING utilizes Minneapolis-Honeywell panel and Westinghouse control system.

THREE-STAGE brown stock washer has Bird Jonsson knotters and also Impco washers with a Ross hood.





INTERSTAGE SCREENING, compromise between conventional and hot-stock screening, was solution to expanding five-year-old, three-stage brown stock system to four-stage for No. 1 machine stock. PRIMARY BIRD CENTRISCREENS (ABOVE) process brown stock between third-stage washer and Impco 11 1/2 ft. by 16 ft. fourth-stage washer (RIGHT) and shredder. Reject screenings go to secondary centriscreen. Application is reportedly industry's first.

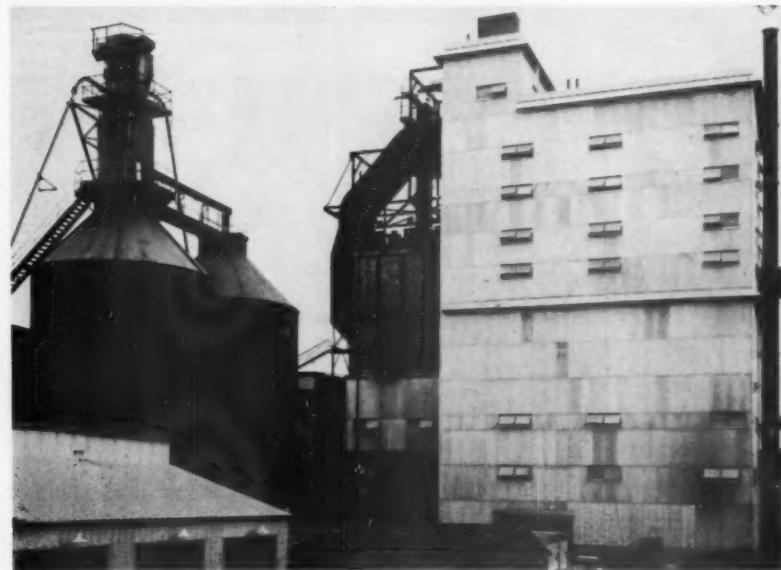


BLEACH-STOCK screening system (LEFT) includes Cowan Mark A centrifugal screen, Bauer Centri-Cleaners. Relocated Impco decker discharges to high-density pump.

COMPACT REPULPER (RIGHT) operating on machine-dried pulp, can be utilized as auxiliary 200 tpd stock source for either paper machine.

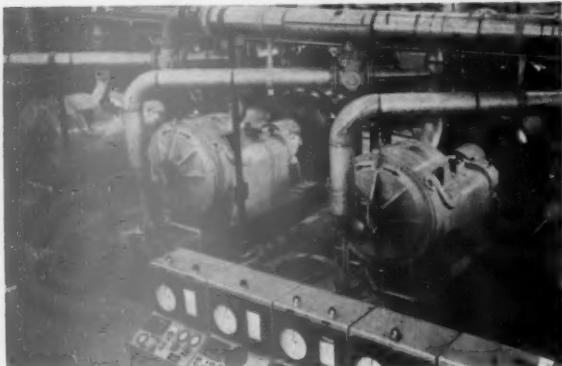


POWER AND CHEMICAL RECOVERY GROUP

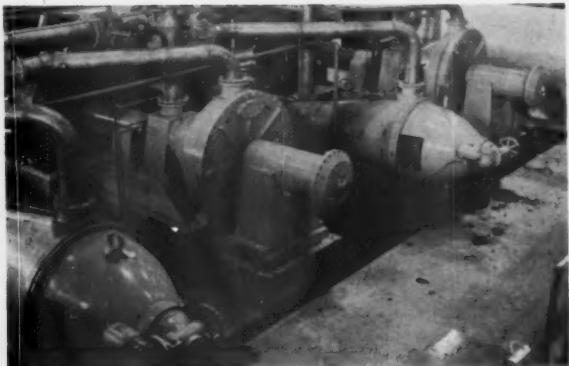


COMBUSTION ENGINEERING UNIT is designed for 1.4 million lbs. of solids a day and 215,000 lbs. of steam an hour at 425 psi, 750 F. It has D. J. Murray cascades, American Standards forced and induced draft fans, Bailey Meter combustion controls. A recently installed seven-body sextuple effect Swenson evaporator with surface condenser concentrates black liquor to 55% total solids. Research-Cottrell precipitator (center) is for odor abatement and high chemical recovery from flue gases. New salt cake storage (left) has Fuller handling system for car-to-storage and for day-bins transport, both served by a single Sutorbilt blower.

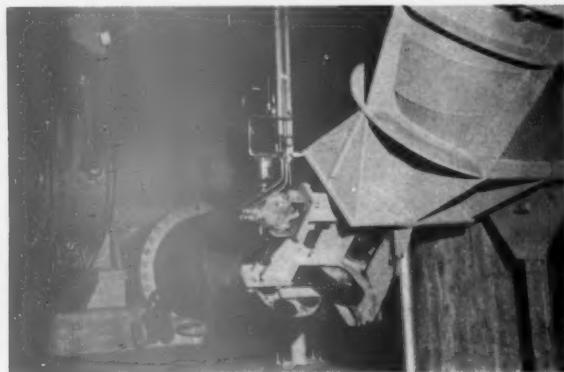
STOCK PREPARATION



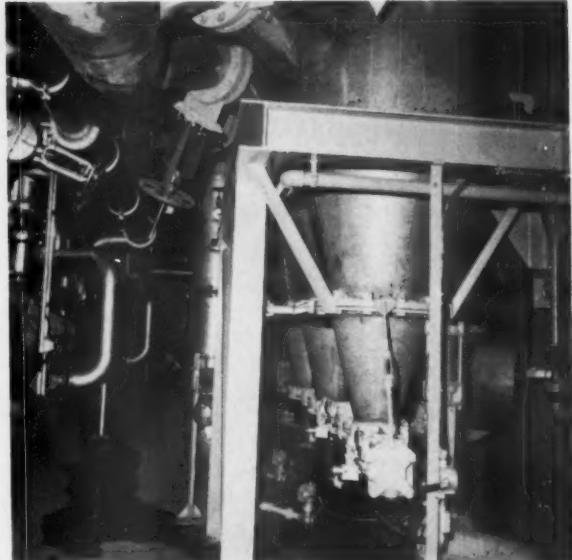
PRIMARY LINE REFINING is accomplished by four 42 in. Jones Double-Ds, which are driven by 700-hp, 450-rpm General Electric synchronous motors.



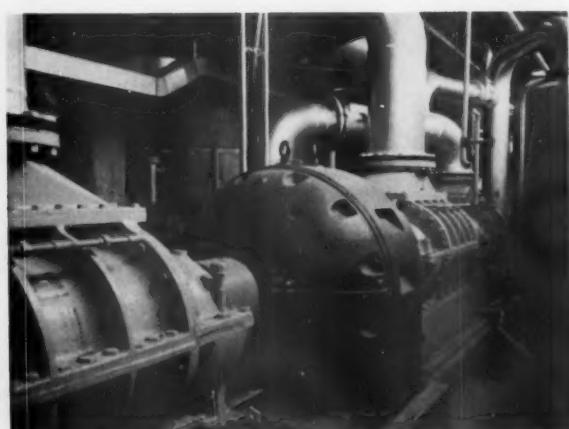
SECONDARY SYSTEM has two Jones Majestic jordans and two Emerson 303 Claflin refiners. A size II Jones Fibermaster, which isn't shown, refines broke.



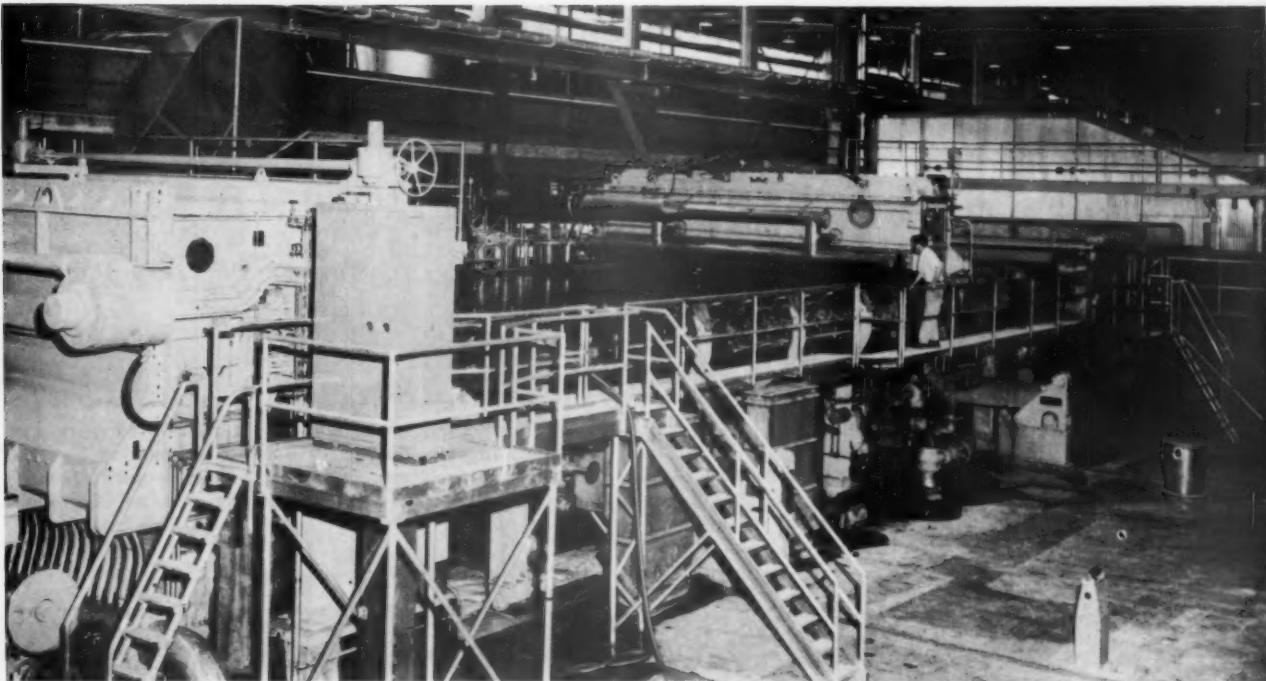
PRIMARY FAN PUMP of Allis-Chalmers receives stock from primary machine chest via DeZurik stuff box consistency regulator. Hilton V-port metering valve regulates flow.



CONTINUOUS COOKER developed by Penick & Ford provides wet-end starch for both machines. It's first such system to be installed. Handling system is Granu-Flow's.



SECONDARY STOCK is handled by Goulds 12,300-gpm fan pump with 400-hp motor; Hilton air-actuated valve at infeed side (left), Rovang stock valve on outfeed.



PAPER MACHINE ROOM

(Top)

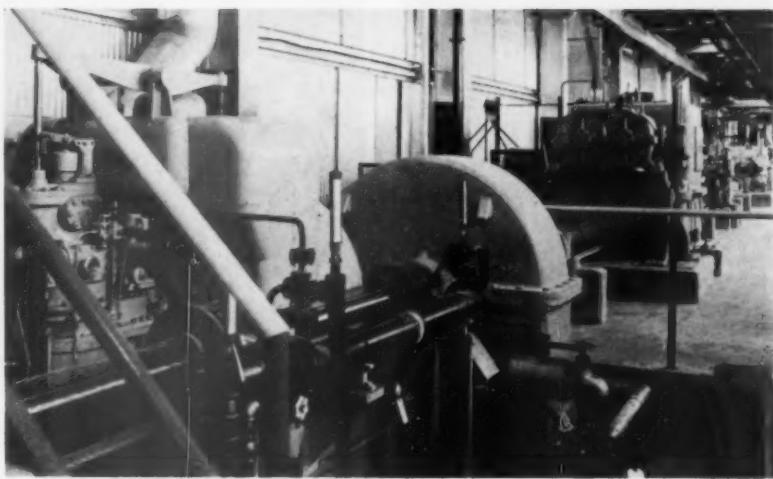
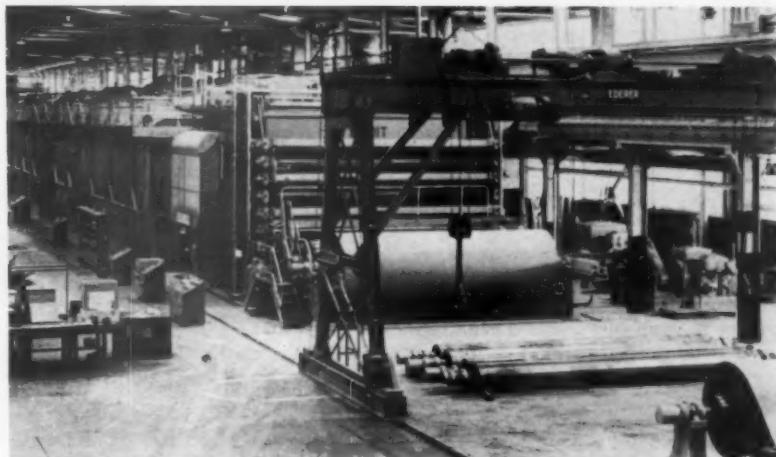
'WESTERN STAR', gleaming light of St. Regis' \$30 million expansion is Tacoma's No. 2 machine. Producing primarily heavier grades, while adjacent No. 1 concentrates on paper grades, versatile No. 2 has product capabilities ranging from 40-lb. paper to 90-lb. paperboard. Wet end of 2,000 fpm Beloit machine uses 262 in. by 153 ft. wire on removable Fourdrinier, Beloit primary pressure headbox, Valley air-loaded secondary headbox, fiberglass-covered table rolls, four suction boxes with Panelyte Teflon-covered tops, Flo-Vac with rubber belt designed for increased wire life.

(Middle)

SEVENTY-TWO DRYERS of 60-in. diameter are contained in Beloit five-section dryer, which has Ross Midwest Fulton forced vapor circulation J. O. Ross machine-room air systems.

(Bottom)

POWER UNIT includes industry's first commercial application of Westinghouse DACA governor system, which controls speed with plus or minus 0.1% of set operating speed over 10.1 speed range.



Participants in St. Regis expansion



William R. Haselton succeeds Mr. Lamb as general mgr., Tacoma. He had been vice pres. and gen. mgr., Rhinelander.



J. M. Lamb had been general mgr., Tacoma area operations until his retirement June 30 after completion of expansion.



S. Kepple Pratt, resident mgr., Tacoma, during expansion, is now mgr., kraft pulp and paper mfg., in Jacksonville.



Robert R. Kollmeyer, Central Engineering Div., staff project engineer, Jacksonville, headed CE group in Tacoma project.



Henry B. Pratt of Rubens & Pratt, handled expansion design engineering. Herman Beyer (center) is CE Div. engineer and Arvin J. Sorenson, plant engineer.



Marcus C. Bradley, pulp mill supt. (1); Jack W. Johnston, asst. pulp mill supt., Byron Groff, instrument supervisor and Bertis E. Doolittle, wood prep supervisor.



A. O. Sater, asst. paper mill supt. (1), Sydney T. Dolan, paper mill supt., and Robert F. Lynch, production manager.



T. L. McMaken is master mechanic, Paul Stulgis is asst. master mechanic-paper.



Harold T. Randles, technical supt., and Wilbur H. Barker, assistant technical superintendent.

Rundown of equipment and suppliers

Pulp Group

Fabricated S.S. piping
Pumps
Screens
Cleaners & reject system
Tanks
Rotary screens, screw conveyor & knotter screens
Agitators
Instrument panels
Polyester pipe & fittings
Steel tanks
Polyester pipe
Oil purifier
Valves & consistency regulators
Mastic application & Erokote storage tanks
Electrical services
Valves & pipe
Control valves
Salt cake handling system
Motors & controls, cable
Pumps

Valves
Rubber lined pipe & rolls
Conveyor, screens, washers, agitation & chip feeders
Air compressors
Continuous digester
Pumps
Agitators
Stock repulper
Wire & cable
Instrumentation
Valves
Chip screens
Refiner
Tile lining-chests
Evaporators
Blower fan
Dust collector
Consulting engineering—general contractor
Pulp testing equipment

Paper Mill

Fabricated steel & tanks
Pumps & primary fan pump
Core cutter
Tubing
Cleaners & reject system
Paper machine & extensible unit
Instrumentation
Tile work
Valves
Air filters
Valves & consistency regulators
Saveall & decker units; repulper conveyor
Alum pumps
Suction box conditioner
Cranes
Electrical services (general wiring)
Motor & gear
Strainers
Magnetic separators & refiners
Control valves
Roll grinder
Instrumentation
Mill air compress
Motors & controls, cable
Pumps

Starch handling system
Magnetic traps
Emulsifying system
Valves
Rubber lined pipe & rolls
Test equipment

Alaskan Copper Works
Allis-Chalmers Mfg. Co.
Appleton Machine Co.
Bauer Brothers
Birchfield Boiler Inc.

Bird Machine Co.
Brinkley, James Co.
Bumstead & Woolford Co.
Burhans-Sharpe Co.
Chicago Bridge & Iron
Corrosion Controllers
DeLaval Pacific Co.
DeZurik Corp.

Earl Paint Corp.
Electric Construction
Esco Corp.
Fabri-Valve of America
Fuller Co.
General Electric Co.
Goulds Pump Co.
(R. M. Wade & Co.)
Hilton Products Co.
Huntington Rubber Mills

Improved Machinery Co.
Joy Mfg. Co.
Kamyr Inc.
Milton-Roy Co.
Mixing Equipment Co.
Morden Machine Co.
Okonite Co.
Panellit Div. of ISI
Schutte & Koerting Equip.
Orville Simpson, Co.
Sprout-Waldron & Co.
Stebbins Engineering
Swenson Evaporator Co.
Western Blower Co.
Western Precipitator Co.

Howard S. Wright, Constr.
Thwing-Albert Instr. Co.

Ace Furnace & Steel Co.
Allis-Chalmers Mfg. Co.
Appleton Mfg. Co.
Automation Products
Bauer Brothers

Beloit Iron Works
Brooks Rotometer Co.
Chemical Linings, Inc.
Crane Co.
Cuno Engineering Co.

DeZurik Corp.

Dorr-Oliver Inc.
Duriron Co., Inc.
Eastwood, Neally Corp.
Ederer Engineering Co.

Electric Construction
Electric Machinery Co.
Elliott Co.

Emerson Mfg. Co.
Fabri-Valve of America
Farrel-Birmingham Co.
Fisher Governor Co.
Fuller Co.
General Electric Co.
Goulds Pump Co.
(R. M. Wade & Co.)
Granu-Flow Equip. Co.
Fred S. Greaves
Hercules Powder Co.
Hilton Products Co.
Huntington Rubber Mills
Instron Engineering

Primary refiners & broke pulper
Pumps (chemical)
Agitators
Wire & cable
Starch cooker
Sampling valve
Instrument air dryer
Instrumentation
Heat exchangers
Heating & ventilation
Steam pressure control & dryer drainage
SS pipe, fittings & fabrication
Tile lining-chests
Paper testing machine
Headbox-secondary
Turbines; motor controls
Roll grinder crane
Consulting engineering—general contractor

Recausticizing

Lime kiln, motors
Mud centrifuges
Limestone feeder
Ductwork, tanks, power blowers & lime kiln stacks
Pumps

Refractories-lime kiln
Lime handling system and slaker grit hopper gates

Wood Supply System

Chip sampling equip., conveyor machy., chip screw feeder, starting belt gates, log pusher
Chip dryer oven
Cranes
Motor & gear
Barking drum
Wood unloader
Chip unloading equip. & scale (Air-O-Flex)
Conveyor system, car pulling equip.
Conveyor system
Log chipper, conveyors
Elevators
Conveyor belt

Paper Finish & Storage

Counter-roll wrapping machine
Roll handling system
Strapping machine
Counter roll rewinder slitter

Power-Recovery Group

Heat exchanger
Blowers & hydraulic couplings
Power boiler & refractories
Instrumentation
Tanks & mixers
Boiler feed pumps
Refractory lining
Recovery boiler
Fuel oil & starch transfer pump
Wood tanks
Packing-oxidation tower
Recovery boiler erection
Emergency generators
Recovery boiler refractories
Power boiler erection & demineralizer
Instrumentation
Precipitators
Blower fan
Motor controls
Pumps
Valves
Vent stack separator vessel

E. D. Jones Corp.
Milton-Roy Co.
Mixing Equipment Co.
Okonite Co.
Penick & Ford, Ltd.
Pioneer Fabricating Co.
Pittsburgh Lectrodryer
Robertshaw-Fulton
Rosenblad Corp.
J. O. Ross Engineering Corp.

Ross Midwest Fulton
Rovang & Assoc. Inc.
Chemical Linings Co.
Testing Machines Inc.
Valley Iron Works
Westinghouse Electric
Whiting Corp.

Howard S. Wright Const.

Allis-Chalmers Mfg. Co.
Bird Machine Co.
Carrier-Conveyor Corp.

Flohr & Co.
Galigher Pump Co.
(R. M. Wade)
Harbison-Walker

Link-Belt Co.

James Brinkley Co.
Drew Engineering Co.
Ederer Engineering Co.
Electric Machinery Co.
Fibre Making Processes
Hiabob Hydraulic

Larson & Baardson, Inc.

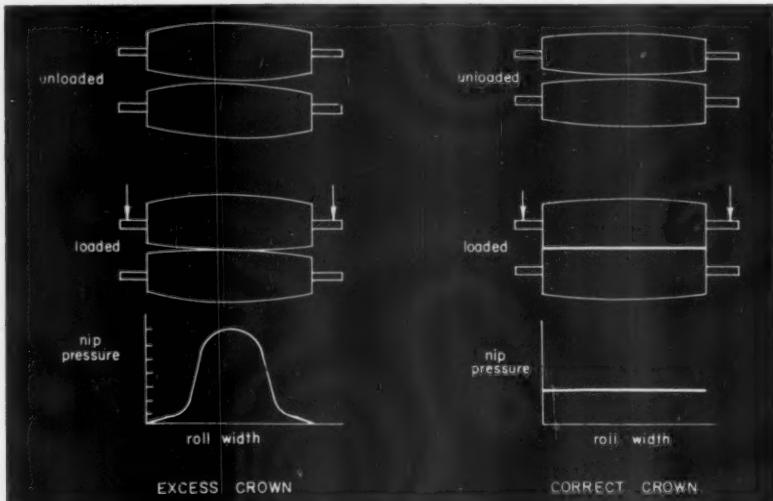
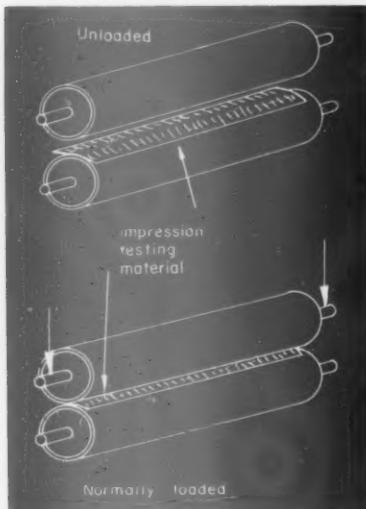
Link-Belt Co.
Rader Pneumatics of Wash.
Sumner Iron Works
Ehrsam & Sons Mfg. Co.
Goodyear Tire & Rubber

Dixon Roll-Wrapping Mach.
Lamb-Grays Harbor Co.
Signode Steel Strapping
Samuel M. Langston Co.

Alaskan Copper Works
American Blower Div.
Babcock & Wilcox Co.
Bailey Meter Co.
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Problem: Uniform nip pressure



NIP IMPRESSION method (left) is said to be best for measuring nip pressure uniformity. Diagrams at right show how roll crown affects nip pressure, using the nip impression method.

By G. GORDON WHITE, Field Service Engineer, Huyck Felt Co.

NON-UNIFORM NIP PRESSURE causes a variety of costly operating problems, can result in high loss of drying efficiency, high felt cost and increased downtime. That's why mills today are giving greater attention to improving methods of measuring nip pressure uniformity.

Several major problems caused by non-uniform nips deserve mention.

On the one hand, excessive pressures can cause overdrying and crushing of the sheet, felt marking, shadow marking and high sheet density; corrugating or cracking of the roll cover; felt filling up and excessive felt wear (streaks and "puckered" areas).

On the other hand, where nip pressure is too low, problems of high sheet moisture and low sheet density are common.

Non-uniform pressure can be traced to four causes: improper crown, non-uniform roll surfaces, misalignment of rolls, and uneven pressure application.

For each press there is a proper crown that will give uniform pressure under a given load. This crown can be calculated if the flexibility of the rolls and the desired pressure are known. But crown calculation is complicated, and the nip impression method is more practical.

Non-uniform roll surfaces can be caused by spotty wear of the rubber covering or by the plastic flow of the

rubber itself. Only regular and frequent inspection and regrounding will maintain roll surfaces.

Misalignment of rolls will cause greater pressure to be applied at one end of the press than at the other. This can be prevented if the horizontal axes of rotation of both rolls are parallel.

Uneven pressure application is often the result of faulty equipment. In a weighted compound leverage system, one arm may "hang up," allowing more pressure to be applied to the opposite end of the roll.

On pneumatic and hydraulic systems, false gauge readings caused by plugged lines can also produce uneven loading. Only frequent and careful checks of loading equipment will prevent such difficulties.

The nip impression method is the simplest for measuring nip uniformity. Several materials for recording nip impression are used: carbon paper and lightweight paper, pressure sensitive paper and knurled aluminum foil. These materials are used virtually in the same way. After the sensing material is placed on the bottom roll, the press is loaded normally, making sure both ends of the top roll contact the bottom roll simultaneously. The press is then unloaded and the nip impression is examined.

Some operators also record nip impressions by removing the felts and

running in the sensing material with the press unloaded. When the sheet is centered, the press is then loaded normally. After unloading, the sheet is run out and nip width measurements are made. One objection to this technique is that indistinct edges are obtained on the impression, which makes measurements approximate.

Another method involves blowing talc or fine clay into both sides of the loaded nip. After the top roll is raised, the nip width will be clean and can be measured. One disadvantage of this method is lack of permanent record.

Necessary crown changes can be calculated by this formula developed by Raybestos-Manhattan:

$$C = \frac{(Ne^2 - Nc^2)(D_1 + D_2)}{2 D_1 D_2}$$

where

C = Necessary crown correction

Nc = Nip width center

Ne = Nip width end

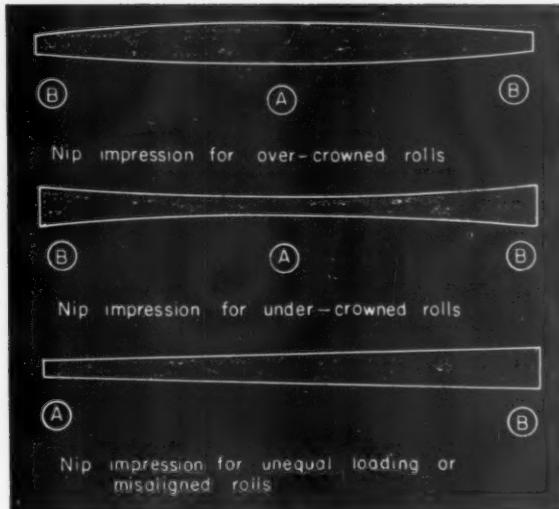
D_1 = Diameter top roll

D_2 = Diameter bottom roll
(all dimensions in inches)

For top and bottom rolls with equal diameters, this formula may be simplified to:

$$C = \frac{Ne^2 - Nc^2}{D}$$

Let us consider an example. For a press having a bottom roll diameter



OVER-CROWNED ROLLS (top) record this nip impression. Here width (A) at center is greater than at either end (B). Under-crowned rolls (middle) result where roll contacts at ends (B) is greater than at center (A). Unequal loading (bottom) or misaligned rolls cause nip width on one edge to differ markedly from that on opposite end.

of 30 inches and a top roll diameter of 24 inches, the nip width is uniform and measures 2.1 inches on the ends and 2.0 inches at the center. Here we have:

$$Ne = 2.1, Ne = 2.0, D_1 = 24, D_2 = 30$$

$$C = \frac{[(2.1)^2 - (2.0)^2] \times [30 + 24]}{2(24 \times 30)} = 0.015"$$

This means that the combined crown of the two rolls should be *increased* by 0.015 inch. If the calculation had resulted in a *negative* number, a *decrease* in roll crown would have been indicated.

New method for nip impressions has been devised by Huyck Felt Co., Rensselaer, N.Y. A tenth of an inch

Check list for making nip impressions:

1. Raise the top roll.
2. Remove felts from face of both top and bottom rolls, and dry and clean both contact surfaces.
3. Place sandwich of sensing materials on bottom roll overlapping both ends so that impression will be in the center of the sheet.
4. Lower the top roll carefully and make sure both ends of the roll make contact simultaneously (If one end of the top roll makes contact prematurely, an artificial nip width may be recorded that will not be indicative of actual running conditions).
5. Apply normal load to both sides of the press simultaneously.
6. Unweight and raise the top roll uniformly.
7. Remove sensing material and carefully measure nip width.

difference in nip can mean a change of 0.0015 of any inch of crown. Because roll crown can be so critical, especially on heavily loaded high speed machines, it is necessary that nip width measurements be accurate.

Seeking a more accurate sensing material, Huyck investigated pressure sensitive paper. This material, when used beneath a finely embossed plastic sheet, makes a very fine and easily distinguishable mark that can be measured to 0.01 of an inch. The sandwich of embossed plastic and pressure-sensitive paper, for use in the usual way, is available in kit form from Huyck.

Problem: Eliminating damage to unitized containers

Place: Weyerhaeuser Co.'s. shipping container division, Delair, N.J.

Solution: Use of rayon strapping.

Ease of handling and light weight are two key advantages resulting from the use of rayon cord strapping on unitized shipments. Weyerhaeuser's shipping container division makes containers of solid fiber or corrugated material.

Weyerhaeuser ships units of containers weighing up to 1,000 lbs. with Avistrap, finds the new strapping easy to use and that corner protectors may be eliminated. They also like the fact that there is no cutting of the edges of the knocked-down containers when rayon strapping is used, and that this strapping is safe since there are no jagged edges.



Use of Nuclear Gauging Increases

By PHILIP E. OHMART, President, The Ohmart Corp.

USE OF NUCLEAR GAUGES to measure densities and levels in processing pulp and making paper is increasing steadily.

In one plant, a nuclear gauge measures the level of paper pulp in a 9-ft.-diameter vessel with $\frac{1}{8}$ -in. stainless steel walls. Measurement is over a 60-in. range, with a precision of 1%.

In a Florida paper mill, a gauge measures black liquor density in a 12-in. steel pipe with $\frac{1}{8}$ -in. wall. Measurement is made over a range of 0° to 10° Baume, with a precision of 2% of range when the material is at 200°F.

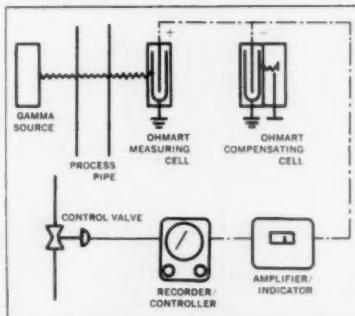
In a Wisconsin plant, a gauge is used to indicate the specific gravity of a starch slurry in an expanded section of a 10-in. pipe through a range of 1.16 to 1.20. The same instrument also measures a paper filler clay slurry with a specific gravity of 1.35 to 1.38. Both measurements are made within $\pm .002$ specific gravity units.

In Virginia, a gauge measures the level of pulp in a bleaching tower. The wall structure consists of 3 in. acid resistant brine, $\frac{1}{8}$ in. steel, and $\frac{1}{2}$ in. plastic. Measurement is made over a range of 12 in. with a precision of 2%. The separation between the radioactive source and measuring or conversion cell is 16 feet.

These are a few applications that pulp and paper engineers have found for nuclear gauges.

A typical nuclear gauge consists of two major parts: measuring assembly and amplifier-indicator. The measuring assembly contains the radioactive source, usually cesium 137 or cobalt 60, and the radiation detection cell. They are enclosed within castings, which can be clamped to the process pipe or mounted in the process line. The radiation source is housed in a lead shield, which has a shutter that allows the radiation to pass only through the process pipe to the detector cell. This eliminates radiation hazard to workers.

In operation, the radiation source is positioned on one side of the line. Opposite is mounted a detection cell. Radiation passing through the pipe and material in process is converted directly into electrical energy by the detection cell. Amount of radiation reaching the detection cell is related to percentage of solids in the system. In this way, direct measurement of specific gravity or percent of solids is obtained.



LEVEL GAUGING SYSTEM employs gamma rays, which are measured by cells. Output current from cells, which varies with level of the material being measured, is inversely proportional to level changes.

In measuring product density it is usually desirable to start from a fixed reference point and amplify changes as much as possible. By this method, greater sensitivity and accuracy can be obtained. For instance, to measure and control percent solids in a water-solids mixture over a range of 0 to 10%, the low end of the meter scale should read 0% solids and the high end 10%.

To set the 0% measurement, the process line is filled with water and a meter reading is taken. Although the water and pipe stop some radioactive rays, the remaining rays reach the detection cell. They are converted into an electrical signal, which is amplified to give a meter reading. When an op-

posite and equal electrical signal is fed into the amplifier, the two signals cancel each other and the meter reads zero. This is called zero suppression or compensation. In this example, when the meter is at zero, it equals water alone or 0% solids.

The second or high reference point is determined by filling the pipe with slurry or mixture of 10% solids, or a solution bearing a specific gravity equivalent to 10% solids, and then again measuring the radiation transmitted through the pipe and solution. Radiation is again transmitted, converted, amplified and the meter adjusted for full scale deflection by the gain control. This is the second or high reference point of 10% solids.

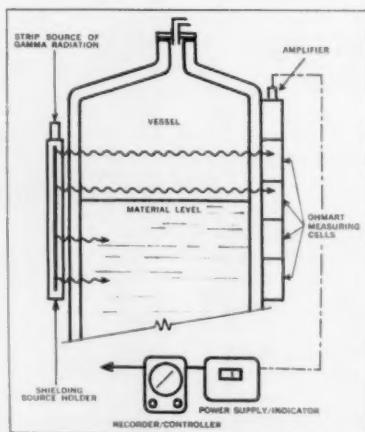
With this method, an instrument is calibrated for direct reading of percent solids in a slurry over as narrow or as wide a range as desired. Differences as small as 0.1% solids, or .0003 specific gravity can be accurately determined.

Two methods of compensation or zero suppression are used in Ohmart systems. Electrical zero suppression is applied where sensitivity requirements are not severe and ranges are broad. The second method, which uses a compensating cell similar to the detection cell but of opposite electrical polarity, provides the highest degree of accuracy and stability obtainable. It is applied where electrical compensation is inadequate.

Generally, two types of amplifiers are used in nuclear gauging systems. An ac vibrating capacitor unit is used for maximum sensitivity and long term stability. Zero adjustment is seldom necessary. Combined with compensating cell zero suppression, the ac amplifier provides and adds the highest possible stability and accuracy. Once in operation, the only adjustment normally required is a bi-monthly standardization to compensate for decay of the radiation source. The second type of gauge uses a dc amplifier with a single vacuum tube. It is used where requirements are less exacting and occasional electrical zero checking can be tolerated.

Three factors must be considered in choosing the proper gauge to solve a density measurement and control problem. They are: range of solids to be measured, desired accuracy, and size of process pipe.

A relationship exists between the size of the process pipe and the maximum sensitivity of minimum span that



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NEW FEATURES OF A SHAFTLESS UNWIND STAND are discussed by staff engineer Lou Bagnato (left, below) and Howard F. Maxwell, general superintendent. Customer's job receives the meticulous individual attention necessary to build the finest and most efficient of mill equipment. Each step calls for the closest working partnership between Beloit Eastern experts. Vertical turret lathe in background is automatic general purpose machine, part of Beloit Eastern's battery of diversified machine tools at Downingtown, Pennsylvania.



BAGNATO checks details of specific mill requirements for new finished processing equipment.

MAXWELL keeps eye on plant output, expedites delivery schedule, follows up on performance.

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CORPORATION
Downingtown, Pennsylvania



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can be measured. The accompanying table gives the relationship:

Pipe size	Minimum span (sp. g.)	Accuracy of reading (sp. g. units)
4	0.100	±.001
6	0.075	±.00075
8	0.050	±.0005
10	0.035	±.00035
12	0.030	±.0003
14	0.025	±.00025

From the table, it can be seen that as size of process pipe increases, minimum span can be decreased. This results in increased sensitivity, and

narrower span of solids or gravity measurement.

When the size of the existing process pipe limits minimum span, a special S-type transition section can be fitted into the process line. It expands the effective size of the pipe at the measurement point, while obtaining maximum sensitivity. Fluid velocity is thereby maintained and turbulence is created to avoid buildup of undesirable material.

For accuracy of calibration, a large number of samples should be taken to determine correlation with the nuclear gauge. Since any single sample may reflect large statistical variations from the mean or true value, a minimum of ten samples should be consecu-

tively withdrawn. These should be evaluated individually and the degree of scatter determined. An average of these readings should be taken and compared with the scale reading. Sometimes, more than ten samples are needed for proper calibration determination.

Since manual sampling is difficult, metallic absorbers for calibrations are used for subsequent standardization. These are inserted into a special fixture located between the detection cell and the pipe, with the pipe empty. More positive calibration is provided by this method than with any system using comparison with an electrical signal. Absorbers are unchanging fundamental units. ■

Order-Handling Cut to Half Hour

—Pittsburgh, Pa.
ORDER HANDLING TIME has been cut from several days to a half hour by Westinghouse Electric Corp.'s apparatus products group with a computerized system located here.

Among Westinghouse's customers who will benefit most from the expeditious order filling are pulp and paper companies, a spokesman says.

He notes that previously the time interval between receipt and shipment of an order was as much as six days. If the piece of equipment ordered was essential to an important operation in a customer's plant, the lag resulted in costly downtime.

Now this lag has been eliminated. With the new system, it's quite common for a plant to receive its order the day after it was placed—or even on the same day, if it was called in early enough.

Ability of the group
to fill orders this quickly has also made it possible for customers to sharply reduce their own inventory of spare parts, according to Westinghouse.

Two computers do the job. They are International Business Machine RAMAC 305s (Random Access Method of Accounting). The reason for the name is that the computer can process information without regard to sequence. In the machines are stored complete information on over 15,000 customers, and data on some 42,000 stock items made in 19 Westinghouse plants around the country.

The company's more than 90 sales offices, together with its plants and warehouses, are linked with processing headquarters here by industry's largest private teletypewriter network.

Here's how the system works: A customer places an order with the sales office nearest his plant. The order is coded with a six-digit, self-checking address number, which is transmitted here by teletype. Sales-order cards are then made and fed into one computer. It checks inventory records, locating the merchandise ordered. It then updates the inventory by reducing from it the merchandise ordered, and punches out what's called an interim card.

The interim card is put in the other computer, which assigns an invoice number to the order, prices it, makes any discounts

that are necessary, and notes the shipping warehouse teletype address code.

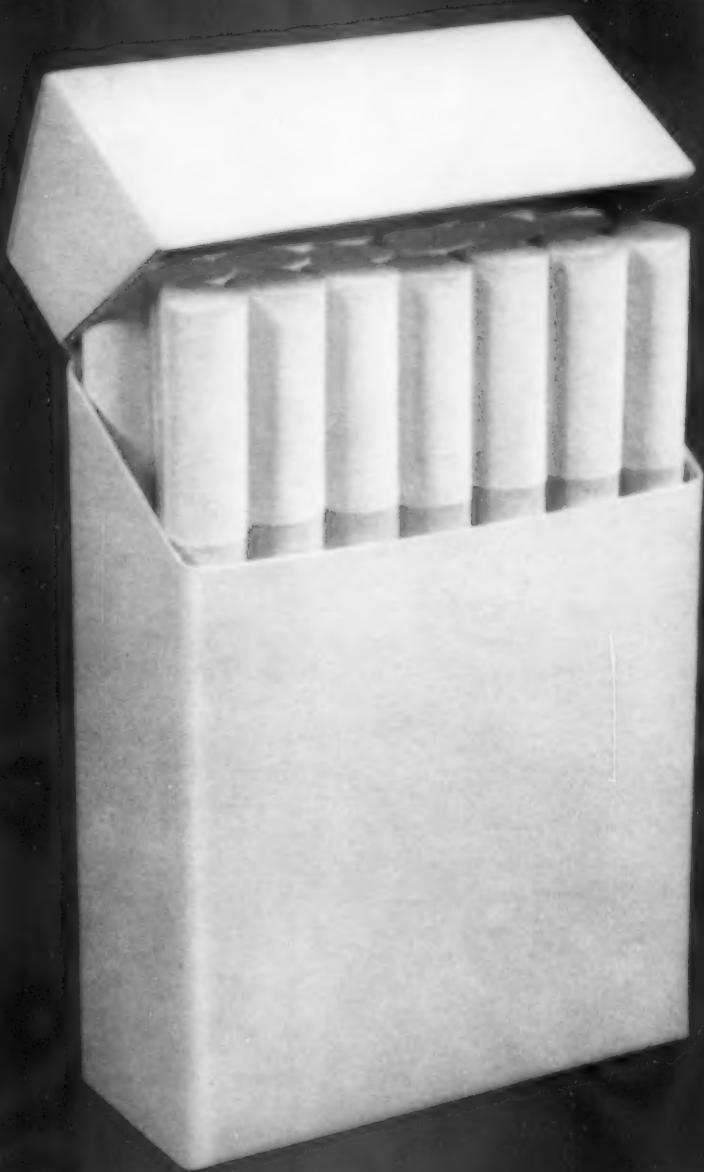
The invoice card is then converted to tape which is teletyped to the warehouse, where the order is filled.

The whole operation takes 30 minutes.

"This speed of handling orders, together with better intercity transportation service, is permitting Westinghouse to give greatly improved service to its customers," says D. C. McAlister, manager, distribution, accounting and procedures. "At the same time, the company is benefiting from one of the most efficient warehousing and inventory control systems ever to be put in operation." ■



TELETYPE MACHINES reproduce about 1,800 orders a day on tape at Westinghouse's new order-processing center.



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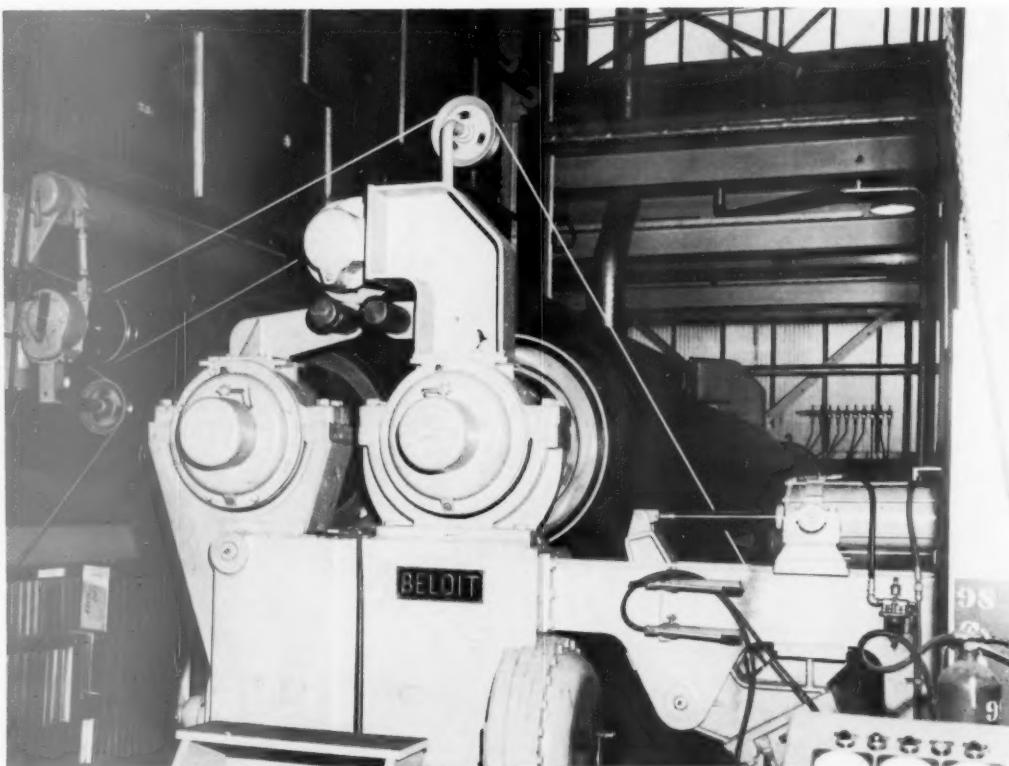


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Rader System Adapts Chip Movement to Plant Layout

Ability of Rader pneumatic conveying systems to move chips from any point in a plant area to any other point, regardless of layout or intervening obstacles, is well illustrated by the setup at Howard Smith Paper Mill Ltd.'s plant at Cornwall, Ontario.

The chip storage pile is approximately 1900 feet from the pulp mill digesters and is separated from the plant by a large parking area and some of the mill buildings themselves.

The Rader blowers and conveyor pipes easily carry the chips the full 1900 feet, rising into the air at the mill approaches to clear driveways and intersecting streets. Capacity of this long line is 126 tons of chips per hour.

The long line is complemented by a second Rader pneumatic system which carries chips from the woodroom to outdoor storage.

In this photo, the log piles are in the foreground, with the woodroom, chip storage piles, parking area and mill in the background. The "long line" conveyor pipe is clearly seen running from the woodroom to the mill, to the right of the storage pile and parking area.

Rader can furnish the engineering know-how and equipment to provide any desired pattern of chip movement in wood products and pulp plants.

Write to Rader for information on pneumatic handling of chips.



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Often it is possible to shear and windrow dense undergrowth, and a heavy stem population (including stumps and trees), at up to 3.5 mph—with this big-capacity rig!

Utilize high speed range of the TD-25's famous Hi-Lo planetary system to maintain momentum for clean, positive shearing action. In conditions requiring added push, simply power-shift down either or both tracks on-the-go...Avoid power-wasting "fish-tailing." And exclusive Planet Power steering lets you turn, under full power, with full-time traction on both tracks—without time-wasting "dead-track drag."

You can Shear-Doze trees and stumps up to 19 inches in diameter *on-the-go*. Split and fell larger growth with the 3-foot-long, 535-pound stinger. Parallel Shear-Dozer pushbeams are made of special



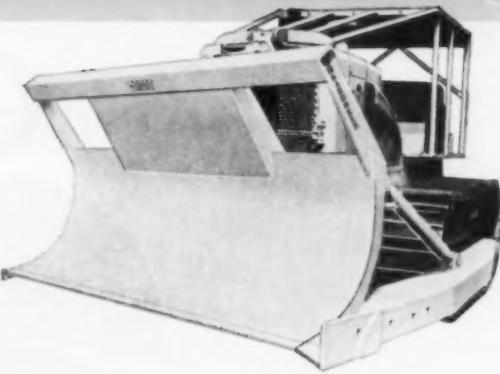
strength alloy steels to withstand land-clearing shock stresses. And long life, low upkeep Shear-Dozer design provides for independently replacing the cutting edge, and the stinger.

Compare what it means in operating economy and equipment capacity to command "The winning combination" action of an International Drott Shear-Dozer and TD-25. Compare specifications and performance features to competitive equipment. Let your International Drott Distributor demonstrate!



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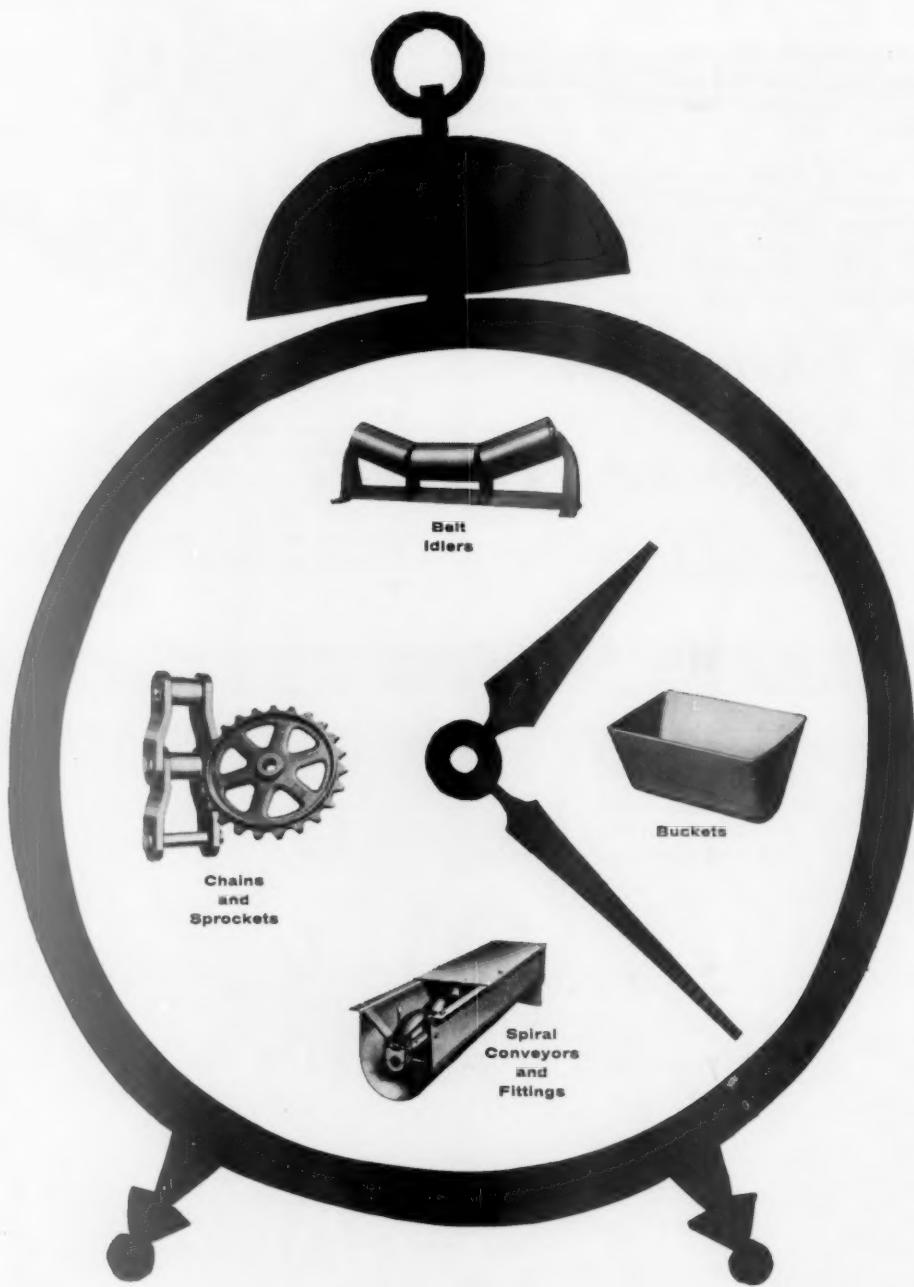
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Cut off trees and stumps at ground surface — windrow the material at the same time, on-the-go! Planet Power steering and Hi-Lo power-shifting help you profit full-time from the TD-25's momentum—by giving you bonus land-clearing speed and capacity!

Note how the heavy-duty Shear-Dozer is angled 25° to the right—to facilitate slicing off woods growth, and windrowing the material as it is cut. The stinger and cutting edge are independently removable and replaceable—an exclusive Shear-Dozer feature!

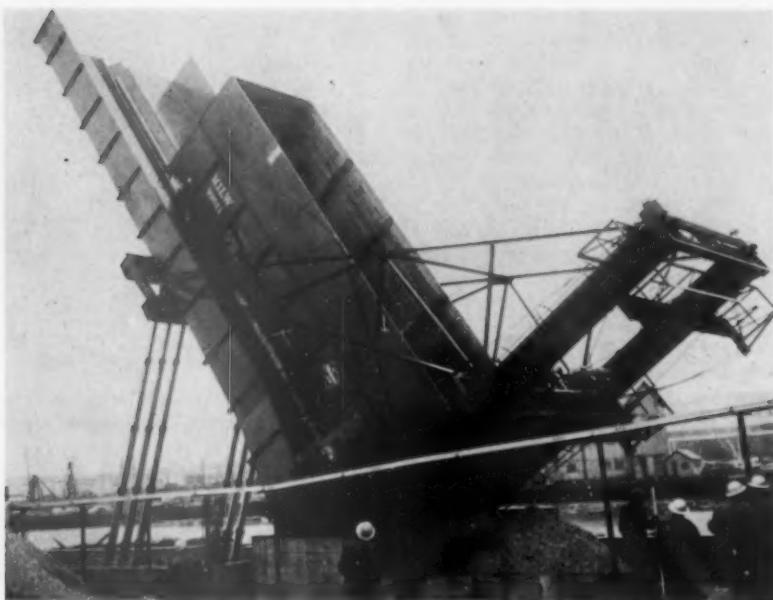




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If it's conveyed, processed or mined, it's a job for Jeffrey.





UP-ENDER WITH AUGERS (left) extends chip handling to cars other than end-opening type. An Air-O-Flex dumper, it hydraulically inclines 60-ft. cars to 58 degrees in three minutes, well beyond the 45 degree repose of chips. The auger enters car at discharge end (right), removing chips that don't transfer to hopper freely.

Woodyard Geared to Mill's Growth

Tacoma's flexibility permits handling logs, farmer wood and chips—whether received by rail, water or truck

WOOD HANDLING FACILITIES at St. Regis' Tacoma, Wash., mill were expanded extensively into one of the industry's most versatile installations of this type. Additions to the former system include a complete system for barking-chipping 8 ft. wood, an unloading system for chips arriving by rail car, and a comprehensive outside storage system for chips.

The integrated set-up can handle logs, farmer wood and chips—any or all of which may be received by rail, water or truck. Regardless of source, chips are kept segregated by species or blends for delivery to the silos as ordered by the pulp division.*

Rail transported chips are received at a new unloading unit incorporating unusual features. After weighing on Fairbanks-Morse scales, the cars are unloaded by an Air-O-Flex hydraulic car up-ender. Chips flow directly from the car into a hopper equipped with

two Link-Belt conveyors that feed the main transport system. This car unloader has a battery of augers for removing chips remaining in the up-ended car. The loader is basically designed for end-opening type chip cars but addition of the augers extends the scope to include almost any type open-topped rail cars.

Mechanical samplers remove small quantities of chips continuously from each of the two feeder conveyors. These samples drop into a unit which diverts a small percentage to sample bucket and returns the rest to one of the conveyors. Chips are purchased on bone-dry weight basis; the system provides for accurate sampling.

Four Rader Pneumatic pressurized transport systems were installed to supplement the previous chip-handling facilities. An 80 unit/hr. Rader system takes care of chips arriving by rail,

a 40 unit/hr. system handles chips produced at the 8 ft. mill, a 60 unit/hr. line takes care of chips arriving at one of the two truck dumps and another 60 unit/hr. system is for recycling chips from the chip silos.

Although these are separate systems, they all deliver chips to the plant's newly developed outside storage area. They appear to merge and become a unified master transport system, in that outside storage is divided into four separate sections (for segregation) and each system delivers to all four of these piles. Consequently, each storage pile receives chips from four discharge spouts, which are joined together in a vertical line as a single component. These 4-pipe units are hydraulically positioned to control direction of flow.

The RP systems are individually equipped with remotely controlled valves. Three of these are 4-way valves

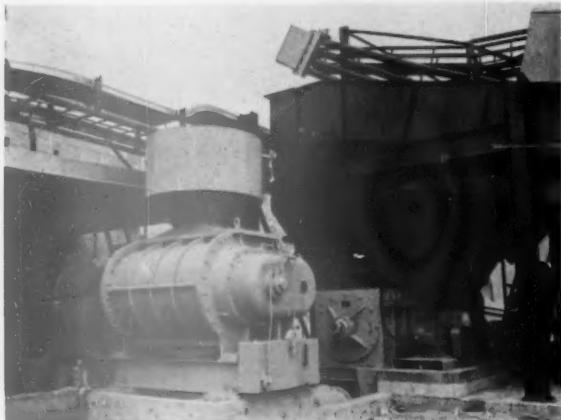
Pulpwood facilities
Engineered for flexibility . . .

—one leg per storage pile. The system handling rail-transported chips has a 6-way valve. Four of these components lead to individual chip piles and the fifth line extends to the plant's hog fuel bin to be used for disposing of off-grade chips or for handling hog fuel arriving by rail. The sixth line is not currently used but would be available should further diversification of chip transport be needed.

Outside chip storage has capacity for 7,000 units. Beneath each of the four chip piles is a concrete open-side tunnel in which a track-mounted Impco traveling auger operates as a reclaiming feeder unit. These augers feed chips to 4-ft. conveyor belts which discharge to a common cross conveyor delivering chips to previously existing silos.



REMOTELY CONTROLLED horizontal-vertical reflector unit surrounding four-line discharge directs chips to specific part of storage pile. There are four deflector-feeders.



CHIP TRANSPORT SET-UP includes four Rader Pneumatic systems, ranging in length from 250 ft. to 1,080 ft. Each delivers to four storage piles.



RECLAIMING CHIPS through open side of tunnel beneath storage pile is at controlled rate with Impco traveling auger, which transfers chips from shelf to conveyor.



PNEUMATIC TRANSPORTS have remote control valves directing chips to specific storage piles. All are four way except for six-way flow for rail chip lines.



IN-PLANT CHIPPING CAPACITY is increased to handle 8-ft. logs 24 in. in diameter. Processing units include Fibre Making drum barker, 112-in., six-knife Sumner chipper.



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Pioneering, road building, decking—every kind of bladework goes ahead more easily with the new John Deere "1010" Crawler and 612 All-Hydraulic Bulldozer. Every function of blade control—lift, down pressure, angle, and tilt—is under command of the single T-Bar operating lever. Hydraulics provide smooth operation, too, in the wet-clutch direction reverser, controlled by a dash lever. The same big-capacity wet clutches make it easy to slip into other operating speeds, too.

The John Deere "1010" Crawler is available with inside- and outside-mounted dozer, winch and trailing or integral log arch, and canopy. Both



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Dead Timber Salvageable

**Billions of board feet
of dead wood are lost yearly
in west Oregon and Washington**

**In addition, surplus growing
stock isn't adequately thinned**

**Needed: better forest
management**

By CARL A. NEWPORT
U.S. Forest Service

Portland, Ore.

TREE MORTALITY DUE TO AGE results in an annual loss of over 3 billion board feet on the 3 million acres of old-growth Douglas fir in western Oregon and Washington. This is the estimate of the Forest Economics Research Division of the Pacific Northwest Forest & Range Experiment Station headquartered here.

But mortality due to age proceeds more or less unnoticed as single trees die throughout the old-growth forest. And the usable wood in these trees tends to be overlooked and lost even though it averages over 350 board feet per acre per year.

Better management of the Pacific Northwest forests could boost the supply of raw material for pulp and paper, now and in the future. Use of previously wasted material—such as the true fir species and dead and dying wood in old-growth forests—would add to the supply. More intensive forestry—such as utilization of surplus growing stock in young stands that isn't needed for final harvest—would also increase the supply.

Although total acreage of old growth will be reduced over the next 50 to 100 years as more forests are brought under management, day-to-day mortality will continue to occur. There are another 3 million acres of old growth in other timber types, like hemlock and spruce, for which no mortality estimate is available.

Estimates have also been made
of the potential from commercial thinnings in western Oregon and Washington. Potential during the next 40 years is put at 100 billion board feet. The estimate is based on an average harvest of 4,000 board feet per acre every 10 years in stands 40 to 80 years old. These stands cover 4 million acres, but by 2,000, they will have been increased to 8 million acres.

Additional wood supply from mortality salvage and thinning during the next 40 years is estimated to be 150 billion board feet, or 4 billion per year. This estimate is a maximum and assumes the existence of roads, markets, and favorable topography throughout the Douglas fir region. One-quarter of the potential, that is, 1 billion board feet per year, could be captured by constructing roads for 2.5 million acres of young growth and for 2.5 million acres of old growth.

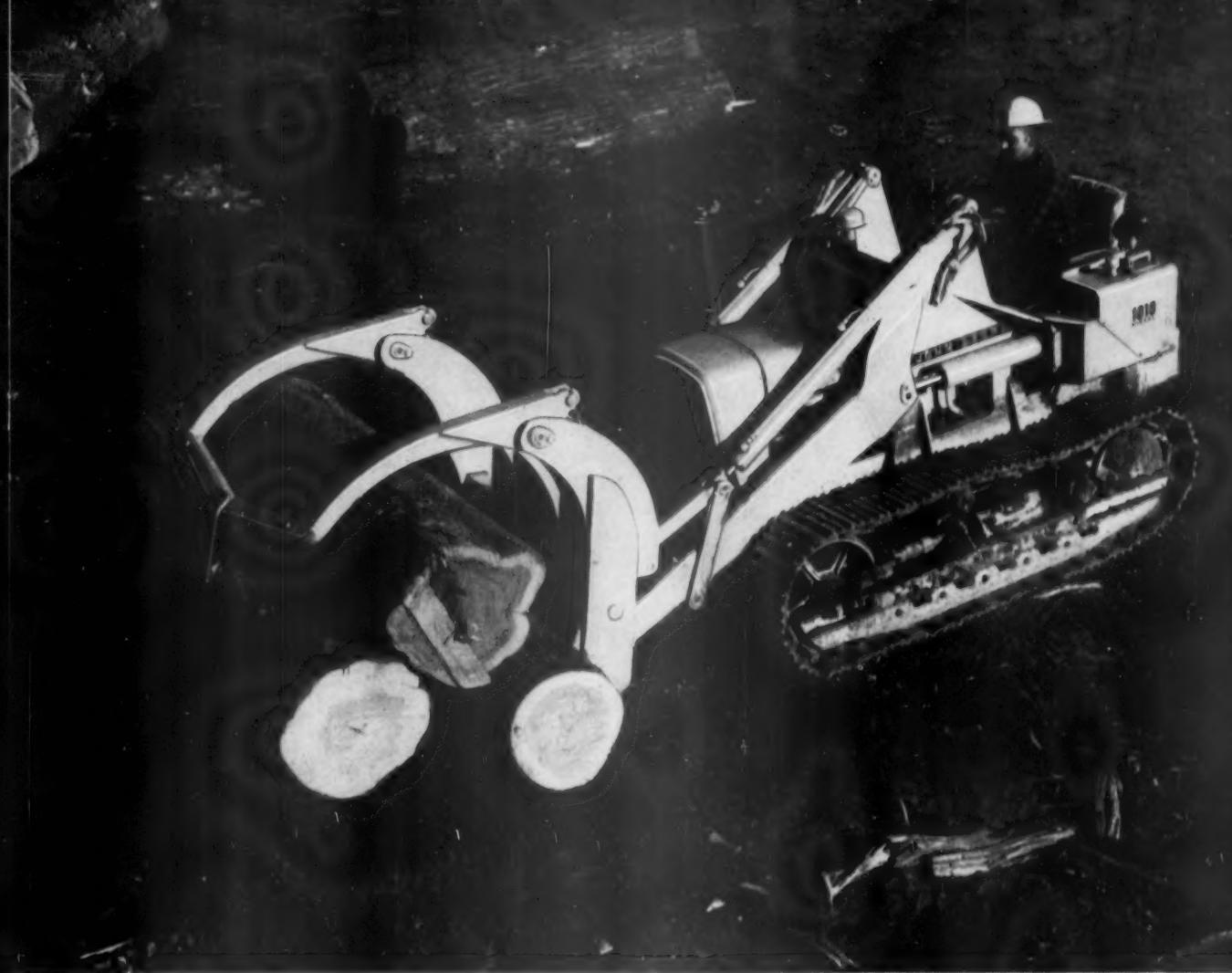


DEAD HEMLOCKS and other species tend to be overlooked by the pulp and paper industry as a raw material.



SMALL LOGS can — and should — be thinned from young forests in Douglas Fir region, says a noted forester.

New John Deere 850 Log Loader



Now—a low-cost loader for yard and landing!

Designed for efficient handling of either sawlogs or pulpwood, the new 850 Log Loader extends John Deere "1010" Crawler economy to loading work at the deck, yard, and mill.

The 850 has a full-height lift capacity of 3280 pounds; breakaway of 6000 pounds. Forks are furnished on 29- or 48-inch centers as required. Lift height to hinge-pin, ten feet.

Loader maneuverability is greatly increased by the hydraulically operated direction reverser with wet clutch. Wet clutch packs make periodic ad-

justment and lubrication unnecessary.

Operator convenience is afforded by single-lever control of fork and lift arms; top clamp is separately controlled. Standard loader bucket or 805 Blade may be easily substituted for the log loader by means of pin connections. Rear-mounted winch completes the package.

For detailed specifications, plus facts on the John Deere Credit Plan, contact your dealer through the yellow pages now. John Deere, 3300 River Drive, Moline, Illinois.



TRACTORS

BULLDOZERS

AND

LOGGING

EQUIPMENT

... Dead Timber

Some roads have already been built. The U. S. Forest Service has developed about 12,000 miles of road in western Oregon and Washington, tapping over 1 million acres of national forest land in those areas. It is building roads at the rate of 1,000 miles per year.

In addition to roads

recent attempts to develop portable chippers should help greatly in overcoming the economic factors that have hindered the mortality salvage and thinning, which intensive forest management requires and which, in turn, can provide an appreciable additional quantity of raw material.

Estimates of the live timber inventory are presented in tables 1 and 2. Last year this report was changed to show net volume of live timber by individual counties for desig-



Mr. Newport is Chief of the Division of Forest Economics Research, Pacific Northwest Forest & Range Experiment Station, Forest Service, U.S. Dept. of Agriculture, Portland, Ore.

Table 1: Estimated net volume of live timber 5 in. dbh and larger in Douglas Fir subregion (by county, year of inventory, species). (in 1,000,000 cu. ft.)

County	Inventory Year	Western Washington					
		Douglas Fir	Red Fir	Hemlock	True Fir	Soft woods	Hard woods
Clallam	**	—	—	—	—	—	—
Clark	*	—	—	—	—	—	—
Cowlitz	*	—	—	—	—	—	—
Grays Harbor	1951	5,032	747	2,541	509	806	429
Island	1959	200	125	21	1	13	40
Jefferson	**	—	—	—	—	—	—
King	**	—	—	—	—	—	—
Kitsap	1959	414	223	25	—	35	131
Lewis	1952	5,975	3,228	1,208	916	338	285
Mason	1951	1,523	842	382	47	115	137
Pacific	1950	2,502	400	1,267	125	558	152
Pierce	1959	2,275	792	800	342	161	180
San Juan	**	—	—	—	—	—	—
Skagit	1957	3,453	529	930	1,203	517	274
Skamania	1950	5,497	2,806	951	1,118	529	93
Snohomish	1955	4,215	809	1,480	931	618	377
Thurston	1954	596	412	26	12	46	100
Wahkiakum	*	—	—	—	—	—	—
Whatcom	1957	2,703	473	750	740	466	274
Western Oregon							
Benton	*	—	—	—	—	—	—
Clackamas	*	—	—	—	—	—	—
Clatsop	1952	1,382	355	792	27	107	101
Columbia	1954	668	478	7	21	42	120
Coos	*	—	—	—	—	—	—
Curry	*	—	—	—	—	—	—
Douglas	*	—	—	—	—	—	—
Hood River	1954	1,062	480	95	282	202	3
Jackson	*	—	—	—	—	—	—
Josephine	*	—	—	—	—	—	—
Lane	1956	17,384	13,075	1,558	844	1,433	474
Lincoln	1955	3,325	2,116	527	45	228	409
Linn	*	—	—	—	—	—	—
Marion	*	—	—	—	—	—	—
Multnomah	*	—	—	—	—	—	—
Polk	*	—	—	—	—	—	—
Tillamook	1955	2,508	980	820	—	430	278
Washington	*	—	—	—	—	—	—
Yamhill	*	—	—	—	—	—	—

* Inventory made before 1950. Volumes not shown because sufficient change may have occurred to substantially modify original results.

** Counties inventoried before 1950 but reinventoried since 1959; reports soon available.

nated inventory dates since 1950. During the past year, estimates have been made for eight counties which previously were omitted because the inventories were outdated.

From the live timber, reported in tables 1 and 2, comes raw material that is the basis for the diversified forest industries in the region. The harvested timber is made into lumber and plywood, as well as pulp and paper.

In the process of manufacturing lumber and plywood, residues are developed that provide additional volume of raw material suitable for pulping. In 1960, approximately 913 million cubic feet of residues were produced in the two states during the milling of these two primary forest products. Of this amount, about 537 million cubic feet were classed as coarse residue that is now—or potentially—suitable for chipping. About 767 million cubic feet of residues were developed in the Douglas fir sub-region, of which about 470 million feet were coarse (table 3). Slightly over half of the coarse residues was used as pulp chips.

Table 2: Estimated net volume of live timber 5 in. dbh and larger in Ponderosa pine subregion (by county, year of inventory, species) (in 1,000,000 cu. ft.)

County	Inventory Year	Eastern Washington							
		Total	Douglas Fir	Red Fir	Ponderosa Pine	True Firs	Lodgepole Pine	Soft woods	Hard woods
Adams†	1958	139	39	40	40	5	15	—	—
Asotin†	—	—	—	—	—	—	—	—	—
Benton†	—	—	—	—	—	—	—	—	—
Chelan	**	—	—	—	—	—	—	—	—
Columbia	1958	453	134	91	152	12	63	1	—
Douglas†	—	—	—	—	—	—	—	—	—
Ferry	**	—	—	—	—	—	—	—	—
Franklin†	—	—	—	—	—	—	—	—	—
Garfield	1958	245	57	63	65	13	47	—	—
Grant†	—	—	—	—	—	—	—	—	—
Kittitas	1953	2,629	1,069	181	692	98	584	5	8
Klickitat	1954	1,005	459	400	111	1	26	—	—
Lincoln	1960	36	10	26	—	—	—	—	—
Okanogan	1959	3,096	1,282	610	226	306	649	23	—
Pend Oreille	**	—	—	—	—	—	—	—	—
Skamane	1960	387	108	151	32	57	28	11	—
Stevens	**	—	—	—	—	—	—	—	—
Walla Walla	1958	44	22	13	7	—	2	—	—
Whitman	1960	13	7	6	—	—	—	—	—
Yakima	1954	3,574	719	1,136	825	209	665	20	—
Eastern Oregon									
Baker	1956	1,478	300	589	301	79	205	4	—
Crook	1952	1,086	124	891	43	4	24	—	—
Deschutes	1953	1,626	12	844	128	425	217	—	—
Grant†	—	—	—	—	—	—	—	—	—
Harney	1958	3,449	448	1,664	566	392	375	4	—
Jefferson	1953	807	28	748	31	—	—	—	—
Klamath	1953	1,041	150	567	131	29	162	2	—
Lake	*	—	—	—	—	—	—	—	—
Malheur	1956	38	14	16	4	—	4	—	—
Morrow	1954	488	88	235	64	53	48	—	—
Sherman†	—	—	—	—	—	—	—	—	—
Umatilla	1958	1,289	295	329	361	131	170	3	—
Union	1958	1,893	315	377	515	276	409	1	—
Wallowa	1957	1,803	437	500	377	164	307	18	—
Wasco	1954	1,647	711	384	299	4	248	1	—
Wheeler	1953	786	249	320	160	7	50	—	—

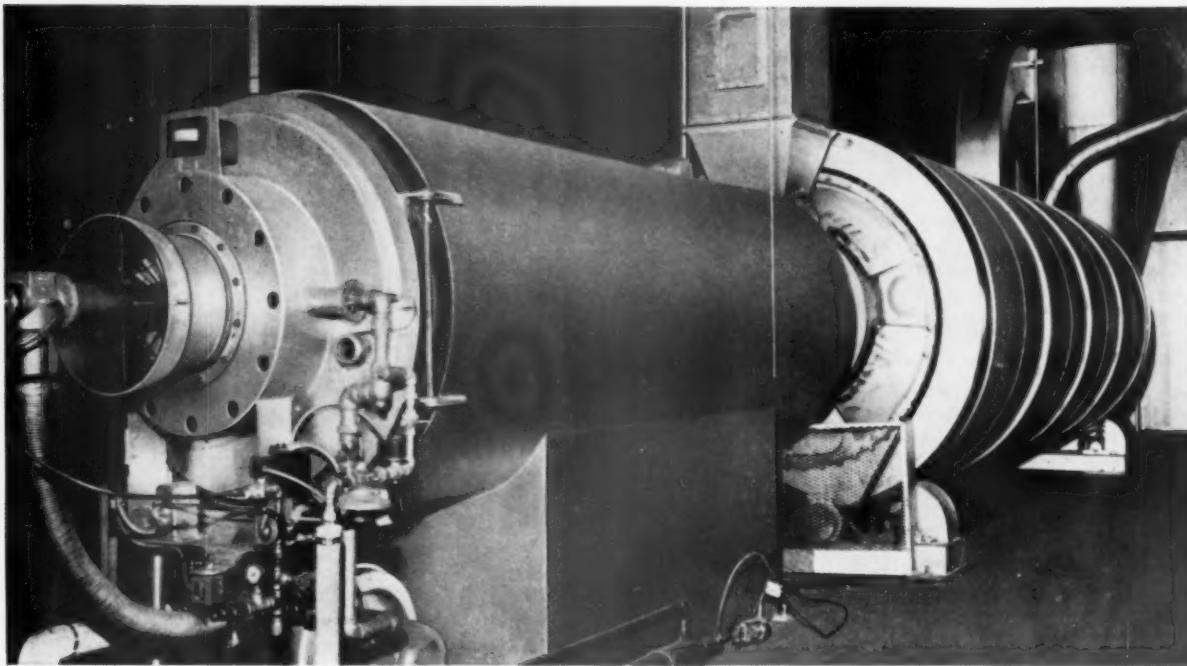
* Inventory made before 1950. Volumes not shown because sufficient change may have occurred to substantially modify original results.

** County inventoried before 1950 but reinventoried in 1959; report soon available.

† County nonforested.

Table 3: Volume of plant residues developed from manufacture of lumber and plywood in Oregon and Washington in 1960 (by subregions).

Residue	Douglas Fir Subregion		Ponderosa Pine Subregion	
	Cubic feet	Tons	Cubic feet	Tons
Coarse	470,556,000	6,529,000	66,393,000	796,000
Fine	296,318,000	4,090,000	79,875,000	959,000
Total	766,874,000	10,619,000	146,268,000	1,755,000



Get highest quality dried pulp at big savings with a HEIL DRYER

The simple, direct and highly efficient Heil dryer method of flash-drying has made it the standard of comparison in the drying of a wide variety of products since 1930.

It produces highest quality dried pulp and fibers because:

RAPID EVAPORATION keeps the pulp in the drying drum relatively cool. Dried pulp never exceeds 130° F. at discharge.

SHORT EXPOSURE — Fine, light particles stay in the drum for a matter of seconds . . . heavier particles remain until the proper amount of moisture is removed — up to 95 percent if desired.

THREE-PASS DRUM provides three-stage drying in a single, compact machine — requires less floor space and head room per ton of evaporation capacity than any other machine. Uses less fuel, and it's lower in price!

MORE PRODUCTIVE — Less warm-up and clean-out time makes a Heil dryer productive for virtually a complete shift . . . or a complete 24-hour operating period.

High-quality dried pulp . . . high production . . . big savings — all these are yours with a Heil dryer. Write, wire or call for more information — and names of users!

THE HEIL CO.

MANUFACTURERS OF THE ARNOLD DRYER

3000 West Montana Street • Milwaukee 1, Wisconsin



Continued from page 19

CZ promotes three in South

BOGALUSA, LA.—In recognition of the major contributions which W. F. Gillespie has made over his many years association with Crown Zellerbach Corp., the company has promoted him to assistant vice president. He will continue to maintain his office in Bogalusa.

C. R. Dahl, resident manager of the St. Francisville Paper Co., has been named resident manager to CZ's mill division at Bogalusa, replacing Mr. Gillespie. Succeeding Mr. Dahl is William E. Parkinson, asst. resident manager of the St. Francisville mill since February, 1960.



GILLESPIE



DAHL



PARKINSON

Loper heads Gulf States wood subsidiary

TUSCALOOSA, ALA.—Gulf States Paper Corp.'s president Jack W. Warner has formed a new subsidiary, Warrior Land and Timber Co. to operate in all areas of pulpwood procurement and forest land management. E. E. (Jack) Loper, former procurement

manager for Gulf States, has been named to the position of vice president and general manager of Warrior Land and Timber.

R. Vance Miles Jr., former vice president, forestry, has been named to the newly created post of vice

president, natural resources and public affairs of Gulf States. Explains Mr. Warner, "This position has been established to provide detailed information and attention in all areas of this increasingly important phase of the company's operation."

Beaupre succeeds Dickey at BCFP

VANCOUVER, B.C.—No under-the-surface factors were involved in an unusual executive switch here when T. N. Beaupre resigned as president of Columbia Cellulose Co. and Celgar, Ltd. to become president of British Columbia Forest Products, Ltd., succeeding Charles D. Dickey, Jr. Mr. Dickey has returned to Scott Paper Co., Chester, Pa., for duties still undisclosed.

A. E. Penny was appointed executive vice president and senior executive officer for both companies. M. W. Mackenzie, Montreal, chairman of the board of the two companies will be C&C president.

"Charlie Dickey was going back to Scott so we had to look for a new president—that's all there was to it," a BCFP spokesman told P&P.

Mr. Dickey was appointed to the Vancouver office on loan from Scott, for which he previously had served as assistant vice president, West Coast operations. He became president in 1957, after the death of H. G. Munro.

Conjecture had been that Mr. Dickey's departure was linked to the recent sale of BCFP stock by Scott to assist, with Mead, in financing the expansion at Brunswick Pulp & Paper Co. This was not the case, according to the company's head office. Scott is



BEAUPRE



DICKEY



PENNEY

still a large BCFP shareholder.

The companies involved are among the biggest in the British Columbia industry. BCFP, part of the giant Canadian complex headed by E. P. Taylor of Toronto, reported net sales last year of nearly \$61,000,000. Columbia Cellulose reported \$26,000,000 net sales—and expects higher sales this year with operation of the affiliated Celgar bleached kraft mill.

BCFP has three large sawmills, plywood and veneer mills and a bleached kraft mill, the last in production about three years at Crofton.

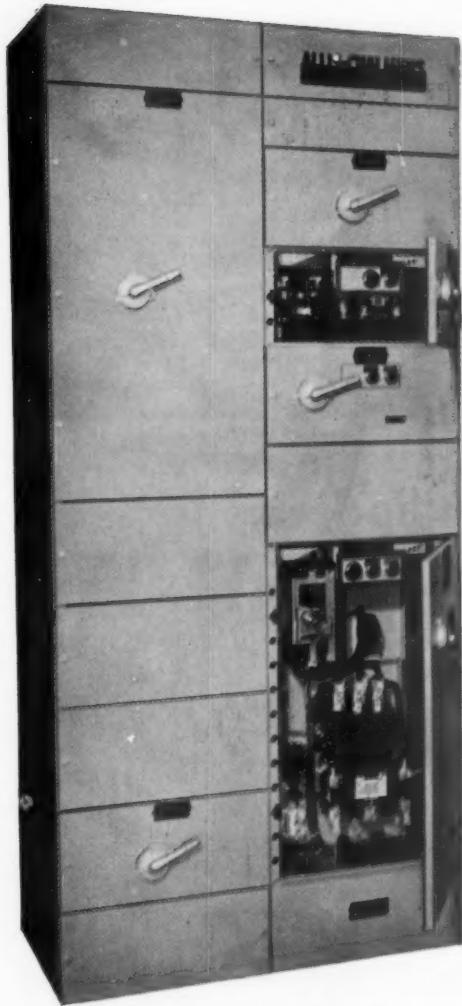
During the war, Mr. Beaupre was with the Canadian government in the Dept. of Trade and Commerce. He

also was in the Department of Defense Production and was assistant deputy minister of aircraft production until 1953. He became president of Columbia Cellulose in 1953, after a term as vice president. Mr. Beaupre currently is chairman of the Forest Industries Council in Vancouver.

Mr. Penny was with Brown Corp., LaTuque, Que., and Brown Co., Berlin, N.H. before coming to the coast in 1956 for Columbia-Celgar.

Mr. Mackenzie joined Chemcell in 1952 and has directed Canadian subsidiaries of Celanese Corp. of America since its first investment in Canada, the Prince Rupert mill, built about 10 years ago.

ALLIS-CHALMERS



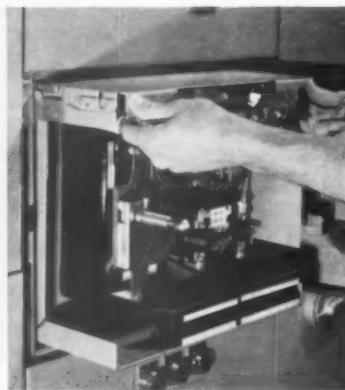
1. Centralized control saves space, cuts installation and engineering costs.



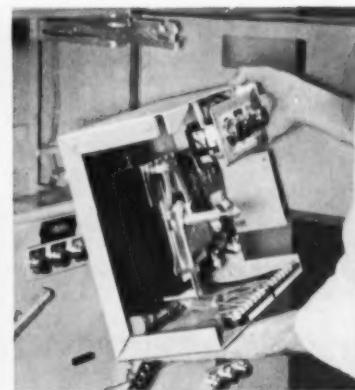
2. Exclusive plug-in terminal blocks permit removal of units without tools. Fully accessible location at front of units simplifies your wiring.



3. Extra heavy plug-in stabs and positive alignment provided by TRACK-GUIDE drawout mechanism assure trouble-free electrical connection.



4. With TRACK-GUIDE mechanism, units can be easily and safely de-energized and locked out, or withdrawn from enclosure for inspection and maintenance.



5. Units can be tilted up for inspection of stabs without removing from TRACK-GUIDE mechanism, or fully removed for bench maintenance or interchange.

...six reasons why Allis-Chalmers new motor control center design is the center of satisfaction

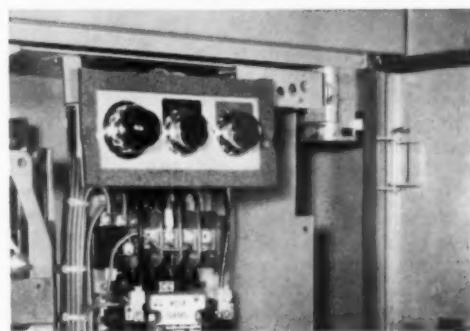
Satisfaction? It comes with every one of the new (yet fully proven) low-voltage control centers from A-C. Their clean, lean design saves valuable space. Exclusive plug-in terminal blocks cut installation time . . . speed inspection and removal. *Track-Guide* drawout mechanism lowers maintenance costs. Control units can be drawn out, tilted up, or completely removed without tools.

Safety features of these new control centers provide *sure* protection to personnel. Units can be quickly de-energized for maintenance or inspection work. Units cannot accidentally fall out of *Track-Guide* mechanism during inspection or maintenance.

Reliability . . . versatility . . . economy . . . strength . . . safety. You name the feature — A-C motor control centers have it. *Ask your A-C representative or distributor for all the facts. Or write Allis-Chalmers, Industrial Equipment Division, Milwaukee 1, Wis.*

Track-Guide is an Allis-Chalmers trademark.

A-1486



6. Mounting of pilot lights and pushbuttons on the removable control units eliminates failures common with hinged wiring.

Howard Smith, St. Lawrence reorganization

MONTREAL—Dominion Tar & Chemical Co., Ltd. announced a major regrouping of operations following its recent acquisition of most shares of Howard Smith Paper Mills, Ltd. and St. Lawrence Corp.

The move will allow the three companies and St. Lawrence's major subsidiary, Hinde and Dauch, Ltd., to utilize combined resources. Individual companies will retain their identities, but for administrative purposes will operate as six major groups.

Groups and their directors are: kraft and fine paper, *Howard Smith*,

H. E. Mason, executive vice president, Howard Smith; newsprint and container board, *St. Lawrence*, C. M. Fellows, executive vice president, St. Lawrence; packaging and converted products, *Hinde and Dauch*, W. H. Palm, president, Hinde and Dauch.

Continuations from Dominion: Chemicals, R. M. Collins; construction materials, P. N. Gross. Mr. Gross will retire shortly and E. A. Thompson, former assistant vice president, will become group vice president of the parent company, as will all these directors.

The consumer products group, also a continuation, will be directed by R. E. Kirbyson, the responsible group vice president.

Members of a chief administrative staff to be located in the head office, Montreal are: D. S. Thomas, vice president and chief financial officer; J. G. Wyllie, vice president and treasurer; W. E. Adkins, vice president, engineering, development and research; W. R. Spence, vice president, purchasing and traffic; and D. M. Matheson, executive director of employee and public relations. ■

Levy named v.p./research at Allied

KALAMAZOO, MICH.—Dr. Robert M. Levy has been elected vice president of research and development, Allied Paper Corp. Dr. Levy joined Allied as director of research and development in 1958, after 18 years as assistant manager of research and development, Ecusta Paper Co., Pisgah Forest, N.C. He also was associated with the Armour Research Foundation and the Cellulose Research Corp. of Illinois.

In 1940, Dr. Levy was graduated

with a ph.d. from the Illinois Institute of Technology. He also has completed graduate studies at Northwestern University and University of Chicago.

As a member of the American Chemical Society, he was chairman of the committee on cellulose and cellulose derivatives from 1950 to 1955. Dr. Levy is a member of the American Institute of Physics, the American Institute of Chemical Engineers, and TAPPI. ■



LEVY

IPC Industry Seminar draws 25



STEWART

HOWELLS

ELIAS

BATES



MCLEOD

STAFFORD

GOTZWALD

HERSHEY

APPLETON, Wis.—The Institute of Paper Chemistry was the host for three weeks this summer to 25 selected men from top mill staffs of 25 pulp and paper firms throughout the nation.

They were here for the sixth annual Industry Seminar, for a concentrated course in the latest scientific and technological thinking in pulp and paper research and production.

Besides this they heard dinner speakers who talked on transportation (Prof. David Lund of Northwestern U.) and on business mergers (Paul Noelke, Milwaukee attorney).

Those in attendance:

John Dunkak, Puget Sound Pulp & Timber Co.; James G. Dunlap, Rhinelander Paper Co.; Anthony Androski, West Virginia Pulp & Paper Co.; Frank H. Schulte, Jr., Buckeye Cellulose Corp.; Philip H. Hershey, P. H. Glatfelter; Floyd D. Gottwald, Jr., Albemarle Paper Mfg. Corp.; Richard H. Elias, Marathon; Jack Hiltz, St. Croix Paper Co.; Gorham H. Scott, Oxford Paper Co.; J. R. Callahan, Jr., Weyerhaeuser Co.; Philip W. Budd, Northwest Paper Co.; Roger L. Traxler, Scott Paper Co.; Sydney S.

Madison, Chesapeake Corp.; John Bates, Kimberly-Clark Corp.; Ted J. Kayhart, Allied Paper Corp.; Fred P. Ritchie, Container Corp. of America; Gordon Stewart, Coosa River Newsprint Co.; John R. Fielding, Union Bag-Camp Paper Corp.; Leland A. Kelson, Crown Zellerbach Corp.; Ralph E. Clifford, Great Northern Paper Co.; A. W. Stafford, Jr., Riegel Paper Corp.; Leonard P. Bundy, East Texas Pulp & Paper Co.; Albert Oetken, International Paper Co.; Russell M. Graff, Longview Fibre Co.; A. B. Moore, Crossett Paper Mills. ■

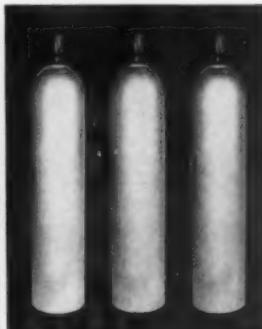
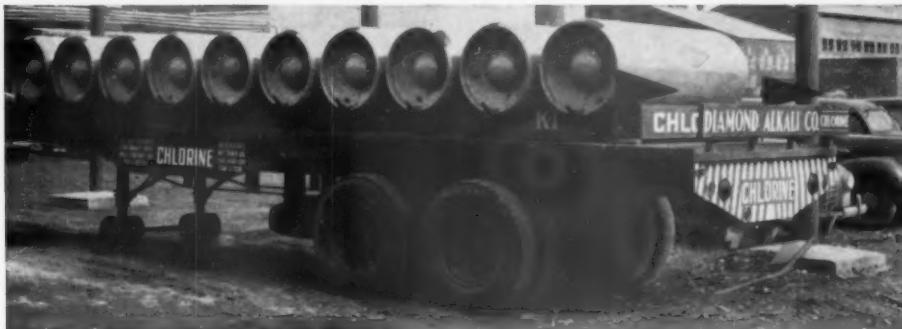
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by inland waterway...by the bargeload



by tank cars...or by the cylinder or container

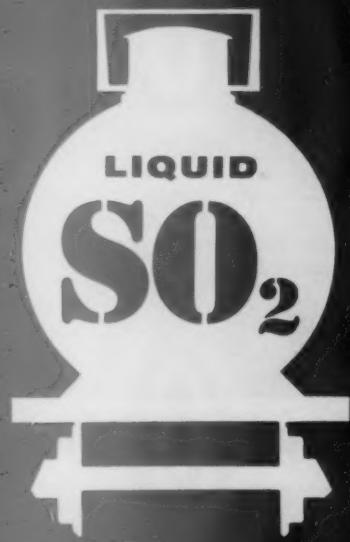


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research and development laboratories, and its own shipping containers. DIAMOND offers trained technical assistance to advise on the economical use of chlorine. For the DIAMOND "Chlorine Handbook", write DIAMOND ALKALI COMPANY, 300 UNION COMMERCE BLDG., CLEVELAND 14, O.

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Fabri Select-A-Flow now provides the paper and pulp industry with a unique flow routing system which cuts operating costs, reduces stock contamination and simplifies route selection.

With Select-A-Flow, route changes which formerly took several hours of maintenance personnel time, now are made in a few minutes by operating personnel . . . machine "down time" is reduced to a bare minimum.

The Select-A-Flow system leaves no stock plugs in the line, and is essentially self flushing. Because of this feature, contamination is virtually nil compared to old-style manifold systems. This makes it ideal for frequent color changes.

Route selection is made easier by the Select-A-Flow system. Stock lines are simply cross connected to each other with Fabri Swivel Joints, which have no interior obstructions, and Fabri Quick Disconnects, which give a flange tight seal with the locking of a lever.

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Close-up above shows how nitrogen soil inoculation pays dividends in more vigorous tree growth. Needles above thumb are pre-fertilization result; longer, lighter green needles below thumb are direct result of Puget's fertilization practices.



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... LITERATURE

Gluing process problems in packaging are discussed in a new 41-page manual. It is intended to be a standard reference on side seaming and closure gluing of folding cartons. There is also a chart of various adhesives in general use. Types, properties, handling, storage problems and testing of adhesives, as well as types, properties and storage of boards are summarized.

Title: Adhesion to Board Manual.
Supplier: Packaging Institute, 342 Madison Ave., New York 17, N.Y.
Price: \$5.

Wetting agents

for many applications in paper processing are described in a new booklet. Specific data are given on using wetting agents in paper towelling, adhesives and in pulpers.

Title: Wetting Agents
Suppliers: Nopco Chemical Co., 60 Park Pl., Newark, N.J.

Paper pile remover

is two-unit system with scissors-type electric-hydraulic platform lifts. As one platform moves away filled, the

second unit moves into position on track. The "Shuttle-Piler" can be pit or flush mounted with floor.

Bulletin: The Clark-Aiken Co., Lee, Mass.

Pulp cleaners

for short-fibered hardwoods, deink, groundwood and high yield sulfite are illustrated with information on ceramic cones and bell type overflow nozzles.

Bulletin P-24-A: Bauer Bros. Co., Springfield, O.

Industrial television monitors

including 14, 17 and 21-in. screen sizes in cabinet and rack models are shown with environmental specifications.

Bulletin ECL 92: General Electric, Communication Products Dept., Box 4197, Lynchburg, Va.

Sleeve bearings

either flange or pillow block, are self-aligning and self-lubricating. A set screw can be backed off and the sleeve bearing cartridge rotated 180°, which the manufacturer says almost doubles

normal sleeve life.

Bulletin 2823: Link-Belt Co., Dept. PR, Prudential Plaza, Chicago 1, Ill.

Digital draw indicator

for paper machines counts rotations of each of two rolls, and through its transistor system, gives diameter of the two rolls. Speed is also measured by the indicator.

Write: The Louis Allis Co., Dept. P, 427 E. Stewart St., Milwaukee 1, Wis.

Filtration plant

for waste purification is based on natural purification and allows waste to pass through a filter producing clear and odorless water. Custom fabricated of aluminum, the unit is described as superior to standard trickling filters.

Bulletin: Project Fabrication Corp., College Point 56, N.Y.

Slurry pressure loops

that eliminate stuff boxes give clean flow to refiners. Description, installation and on-the-job system are shown. **Bulletins 2.4-1 and 10.0-1:** The Clarkson Co., 735 Loma Verde Ave., Palo Alto, Calif.

... CHEMICALS

Wet end additive

for strength and economy is being produced by the industrial division of Corn Products Co. The new chemically-modified anionic, thick boiling corn starch, Superior brand 3821, is said to have these advantages: paper strength, as shown by mullen and wax pick tests, can be increased; if increased strength is not needed, economical adjustments can be made in pulp composition, filler materials or surface size and maintain present sheet strength. It is also possible, says Corn Products, to increase the amount of low cost filler materials without sacrificing quality.

Supplier: Corn Products Sales Co., 10 East 56th St., New York 22, N.Y.

Polyethylene Resin

Black pigmented polyethylene resin for extrusion coating onto paper, paperboard or aluminum foil is introduced by U. S. Industrial Chemicals Co. (division of National Distillers & Chemical Corp.), 99 Park Ave., New York 16, N. Y. Petrothene 201-220 has a 0.916 density and 4.0 to 5.5 melt index, is expected to find application in automobile door liners, agricultural mulch-coated paper and packages for photographic film or paper. Coatings greater than 0.75 mil are said to provide effective light

and moisture barrier. Other features: good carbon black dispersion; absence of non-homogeneous particles; low moisture content; excellent adhesion onto paper or board. Resin is available in 50-lb. bags, 10,000-lb. Sealbins or 100,000-lb. Dry Flo cans.

Sulfuric Acid

New edition of technical brochure features enthalpy curves that enable users to calculate heat developed and final temperatures when acid is water-diluted. Data book includes information on uses, manufacture, properties, storage, handling and analysis methods. Charts are revised for easier reference. Copies available from Allied Chemical Corp., General Chemical Div., 40 Rector St., New York 6, N. Y.

Folding Box Adhesive

A fast-setting polyvinyl acetate resin adhesive for folding box manufacturing has been developed by Morningstar-Paisley Inc., 630 W. 51st St., New York 19, N. Y. Solu-Rez 54-10301 is recommended for straight-line work where deep bite and high speed are required. It is said to be easily cleaned from machine parts and reservoirs without need for solvents; to eliminate viscosity build-up under agitation; to have excellent mileage because of high solids content and low viscosity; to provide uni-

form, effective bonds on "difficult" boards. Surface film formed in standing may be redissolved in adhesive itself.

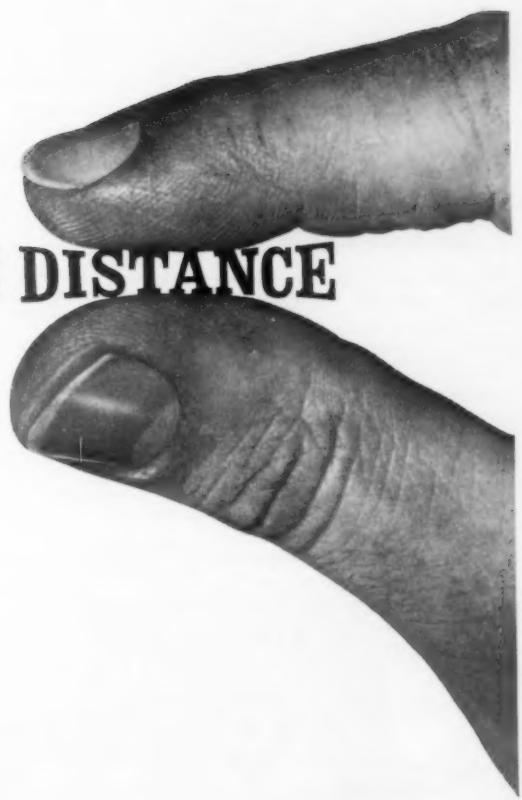
New Polymer Plant

National Starch & Chemical Corp.'s 14,000,000-lb. polyvinylidene chloride resin plant at Meredosia, Ill., is now "on stream". Facility is in commercial production of Resyn 3800, an aqueous dispersion of vinylidene chloride copolymer. The new resin offers "exciting possibilities for packaging, surface coating and construction material due to its extremely low water vapor transmission rate, its barrier properties that resist permeation of organic vapors, as well as its exceptional chemical-, grease- and oil-resistance properties".

Fluorocarbon Film

E. I. duPont de Nemours & Co. reports a new type Teflon FEP-fluorocarbon film, one side of which is cementable with common adhesives. New film type can be anchored with many standard adhesives to variety of materials for use as an anti-stick or protective surface. Among many uses utilizing standard adhesives is production of pressure-sensitive tapes. Available in widths up to 30 in. in gauges from 1 to 40 mils. Contact duPont, Public Relations dept., Wilmington, Del.

MATHIESON SQUEEZES DISTANCE



...to cut your caustic delivery time

Order caustic soda from Mathieson and watch the miles shrink! Mathieson delivery makes distances seem shorter because you get caustic soda into your plant quickly and on schedule. Eight producing plants and shipping points (and a ninth under construction) cover the industrial East.

There are reasons, too, why Mathieson lowers delivery costs. Only Mathieson

ships 73% caustic by truck for fewer trips, less weight, lower freight and faster hauls.

And, of course, Mathieson service backs every order with technical assistance—on the spot or laboratory-checked. For full details, write OLIN MATHIESON, Baltimore 3, Maryland.

Ammonia • Sodium Bicarbonate • Carbon Dioxide • Caustic Soda • Chlorine • Hydrazine and Derivatives • Hypochlorite Products • Methanol • Muriatic Acid • Sodium Nitrate • Nitric Acid • Soda Ash • Sodium Chlorate • Sodium Chlorite Products • Sodium Methylate • Sulfur (Processed) • Sulfuric Acid • Urea

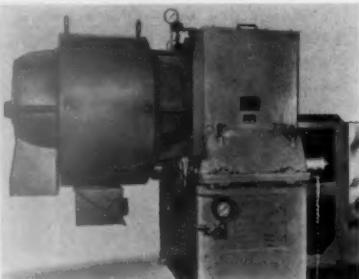
276

CHEMICALS DIVISION

NEW EQUIPMENT

Screw press

... with rapid speed change



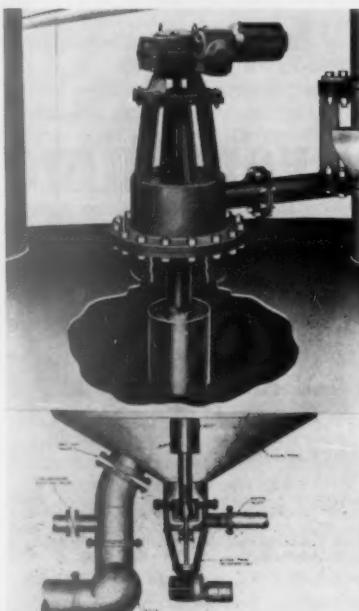
Applications: Removes fluids from fibrous materials, de-fibers or shreds whole wood chips, recovers dissolved materials chemicals at high concentration.

Features: An adjustable motor mount permits changing the speed of the two-speed pressing shaft in less than 30 minutes. The manufacturer says this patented feature minimizes production flow interruption and press down-time. Speed changes are made without disconnecting or removing motor. A built-in jackscrew is used to raise the motor to substitute pinions.

Supplier: French Oil Mill Machinery Co., Piqua, O.

Tank unloader

... for high density stock



Applications: For unloading stock stored at high density.

Features: Slowly revolving "mining

type" head applies two streams of high-pressure water which slice off the stock and deliver it to unloading pipe. Supplemental water is added in controlled amounts for transport through pump and piping to machine stock chest. Absolute density control is provided by a standard consistency regulating valve and satisfactory manual control are reported.

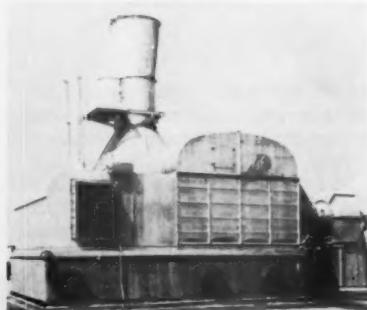
This unit facilitates the storing of stock to 50% density, increasing capacity of existing tanks and towers as much as 400%. By delivering higher density stock, the unloader saves time and cost required for removing excess water.

Specifications: Rovang Tank Unloaders are available as fully engineered units readily adaptable to any paper mill. Only one simple tank connection is required; may be installed from either top or bottom of tank.

Supplier: W. G. Rovang & Associates, Inc., 1945 Columbia Blvd., Portland, Ore.

Heat reclaimers

... with high BTU capacity



Applications: For heating premises, processing liquids, or combating excess moisture.

Features: The manufacturer says these units, for either small or large operations, are economical, custom-fitted and have many uses when large BTU's are required.

Supplier: American SF Products, Inc., 701 Palisade Ave., Englewood Cliffs, N.J.

Hydraulic web guide

... with automatic pilot

Applications: For use on paper machine.

Features: Web corrections to within plus or minus .010 are possible, the manufacturer says. "Chattering" and "hunting" are eliminated with this integrated unit. Vacuum, pressure, me-

chanical and photo-cell web-positioning sensing heads are available with completely adjustable sensing head bracket. A 15-ton capacity double-action hydraulic power cylinder is attached to a completely shiftable unit at unwind or rewind points.

Supplier: Stanford Engineering Co., Box 369, Salem, Ill.

Trunk-mount radio

... has smaller head



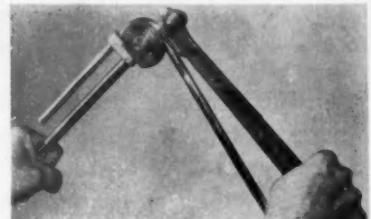
Applications: For vehicular communications.

Features: A new control head on this two-way transistor radio is $2\frac{1}{4} \times 2\frac{1}{4} \times 4\frac{1}{4}$ in. and is designed for dashboard use when the basic unit is placed in the trunk. Lower battery drain consumes .040 amps with switch on "standby," and with car engine off. The microphone is high-impact plastic, and the control head, which slides from its case by removing two screws, is extruded aluminum.

Supplier: General Electric Communications Products Dept., Section P, Lynchburg, Va.

Tubing benders

... in six sizes



Applications: For hard and soft copper, aluminum, stainless steel and brass tubing.

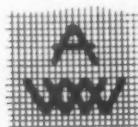
Features: Will accommodate $\frac{1}{8}$, $\frac{1}{4}$, $\frac{3}{16}$, $\frac{1}{2}$, $\frac{5}{16}$ and $\frac{3}{8}$ in. o.d. tubing. Forming shoes and rolls are made of high-grade steel and designed, according to the manufacturer, for easy working with installed and limited access tubing. The tool can be removed at any part of the bend operation. Bends up to 180 degrees are possible.

Supplier: Distributors for Ridge Tool Co., Elyria, O.

leading manufacturer of wires for



APPLETON WIRES
are good wires!



APPLETON WIRE WORKS, Corp. PLANTS AT APPLETON, WIS., AND MONTGOMERY, ALA.;
INTERNATIONAL WIRE WORKS, MENASHA, WIS. AN AFFILIATED COMPANY

STRICTLY PERSONAL . . .

Midwest

Midwest Board Sales Office Opens

Weyerhaeuser Co's midwest sales are augmented by establishing a separate sales office for paperboard at 7 Broadway, Des Plains, Ill. according to **Rodger C. Derby**, mgr. of board sales, Tacoma, Wash. Pulp and board sales were previously handled from a central office in the Chicago area.

Two representatives recently appointed to midwest paperboard sales are **Ted J. Blair** and **Stephen G. Nason**. Mr. Blair, formerly associated with Perkins-Goodwin Co., has completed several months training in paperboard field since associating with Weyerhaeuser. Mr. Nason, formerly a project engr. at the company's Springfield, Ore., kraft mill, attended the Paper Institute and was associated with Publishers' Paper Co. at one time. **Walter Aagaard** is mgr. of Weyerhaeuser's midwest board sales.

Elton T. Krogel is now pulp mill supt., Rhinelander Paper Co., div. of St. Regis, Rhinelander, Wis. He had been acting supt. since June 1.



William C. Brunson is Midwest sales manager, Antara Chemicals div., General Aniline, succeeding **G. A. Brost**, now product manager-intermediates.

Hans A. Schelke is now sales rep., Appleton Woolen Mills, for southern Mich., eastern Ohio and upper New York. Born and educated in Holland, Mr. Schelke had been a research chemist with Crown Zellerbach, Camas, Wash.

Theodore C. Baker has been appointed asst. to the vice pres. and gen. mgr. of folding carton and fibre drum div., Continental Can Co. He will coordinate development of production, sales and general packaging laboratory, Chicago.

Henry W. Bailey has been named president of Tuttle Press Co., Appleton, Wis. He succeeds **H. D. Purdy**, president for 10 years, and now chairman of the board. **C. A. Pertain**, vice president and treasurer of Appleton Wire Works, was

elected to the board, along with Mr. Bailey. **W. E. Buchanan** will continue as vice president, and **L. R. Watson** as vice president and secretary.

Appointments by Consolidated Water Power & Paper Co. at its Wisconsin Rapids div. technical dept. are: **William J. Haselow**, quality control supervisor; **William Aschenbrenner**, control and analysis foreman; **Ben Erickson**, assistant control and analysis foreman; **James McIntyre**, pulping section process engineer; **David R. Haskins**, quality control engineer.

325 Attend Annual Gull Lake Fun Day

With 224 registered for all-day golfing and 325 present for dinner, the Michigan Division, Paper Industry Management Association and the Kalamazoo Valley Section of TAPPI staged a successful annual Fun Day recently at Gull Lake, Mich.

Richard Teugh, Hamilton Paper Co., Plainwell, was the happy winner of the golf trophy and a golf cart.

Martin Craig (Dow Chemical Co.) was the day's chairman assisted by **Robert Gordon** (Union Starch & Refining Co.); **Bud Heolze** (E. I. du Pont); **Bud Mueller** (Lockport Felt Co.); **Robert Shaw** (R. T. Vanderbilt); **Clair Lage** (Orr Felt); **Frank Clawson** (Paper Mill Suppliers); **Millard Moors** (Hercules Powder Co.); and **Bill Riedel** (Gus Riedel and Sons).

Roy Petty, president and founder of Indiana Paper Co., Inc., has resigned because of ill health. **Jack McLaughlin**, formerly Mr. Petty's assistant, and vice president, is now president. Mr. Petty will remain on the board of directors.

Joseph M. Cahalan has been named marketing mgr., Cincinnati div. and asst. to the gen. sales mgr., Mead Board Sales, Inc., Dayton, O. **William C. LePage** replaces Mr. Cahalan as Cincinnati dist. sales mgr.; **Russell R. Williams** succeeds Mr. LePage as Chicago dist. sales mgr.

East

John R. Kimberly, chairman of the board, Kimberly-Clark Corp., and past president of the American Pulp & Paper Assn., has been elected a director of Corning Glass Works, Corning, N.Y.

Loren J. Matthews has been named industrial engr. on the staff of **Benton R. Cancell**, operations executive vice pres.,

St. Regis Paper Co. Mr. Matthews was manufacturing services director for Creamery Mfg. Co., a St. Regis subsidiary in Chicago.

Richard D. Butler Jr. has been promoted to mgr., Boston sales office, Warren Pumps, Inc., Warren, Mass. He succeeds **Parkman A. Collins** who retired after 34 years. Mr. Butler has been a Warren sales engineer for the past seven years.



Elliott McCabe Crossland

Thomas B. McCabe, president of Scott Paper Co., received an honorary doctor of laws degree from University of Maine. Making presentation are university president **Lloyd H. Elliott** and vice president **Charles E. Crossland**.



Dr. James Russell has joined St. Regis Paper Co. as group supervisor, polymer and by-products research. He will do basic research on wood-derived chemical products.

J. Peter Munton, former chief engr., Rice Barton Corp., Worcester, Mass., is now sales manager, western region.



E. Hart Rasmussen has been appointed mgr., spray dryer div., Nichols Engineering and Research Corp., N.Y. He joined the company in 1954.

Robert A. Larson, formerly development mgr., Allied Paper Co., Kalamazoo, Mich., has joined Brown Co., Berlin, N.H. as technical assistant to **Edward**



They threw out the unwind shaft and roll production jumped 50%

This is the magic of the Langston shaftless unwind stand. Put it in anywhere and right away you can get more production—and with actually less manpower.

Usually one operator can do everything—faster than two men with a shaft-type back stand. At Potlatch Forests, Inc., Lewiston, Idaho, for example, the operator can get a roll on the machine ready to unwind in about 60 seconds. All he does is maneuver the roll into position, push a button that closes the arms,

another button to lift the roll into running position . . . and the job is done. No horsing a heavy shaft. No uncertain manual tightening of cones. No risk of slippage. Powerful hydraulic cylinders close the cones tight on the roll and hold them there automatically. He doesn't have to return rolls to the "broke beater" merely because of damaged cores or slow down the machine when unwinding out-of-round or narrow rolls.

Langston shaftless unwind stands can

pick up rolls in diameters as small as 14 in. and as large as 84 in.—as narrow as 10 in. and as wide as 132 in. or more. Side register control, an optional extra, lets you unwind slipped (telescoped) rolls with a minimum of trim.

Economy is the big reason for today's trend toward these Langston shaftless unwind stands. Does economy interest you? Write for complete details. Samuel M. Langston Co., 6th & Jefferson Sts., Camden 4, N.J.

Langston



LEADERSHIP . . . BY DESIGN

STRICTLY PERSONAL . . .

H. Petrick, v.p. and gen. mgr. of the paper div. He will be in the general sales office in Boston.



Fred Ihlenburg has been promoted to asst. sales manager, Draper Brothers Co.'s papermakers felt div. at the home office in Canton, Mass. He had been on the West Coast.

Pacific

Crown Z people in the news: **William H. Maxwell**, product mgr. for bags & papers, San Francisco headquarters, transfers as asst. res. mgr. of CZ Antioch paper mill div., A. W. Wetmore, supt. of Antioch multiwall bag dept., fills the resultant headquarters vacancy and **B. I. Steinberg**, multiwall shift foreman, advances to multiwall supt. at Antioch . . . **Ben F. Warren**, 55, converting mgr. of Crown's Camas, Wash. div. since 1949, died July 2 following several weeks ill-

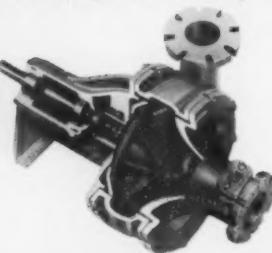
ness . . . At St. Helens (Ore.) Div. **Pete Taranoff** advances from paper machines supt. to converting, finishing, shipping & yard supt. as successor to **Charles E. Young** who transfers to Crown's Carthage, N.Y. mill as converting supt.; **Bert Pasero**, machine & beater room supt., becomes paper machines supt.; **Earl Gorman** promoted to beater room supervisor . . . **Claude Chevron** promoted to kraft mill maintenance supervisor at Camas Div. . .

Alfred E. Spaulding, asst. regional forester in charge of fire control, Pac. Northwest Region of U.S.F.S., Portland, Ore., is promoted to deputy regional forester—a newly created position. **Kenneth O. Wilson**, asst. director of fire control, Washington, D.C., transfers to Portland to succeed Mr. Spaulding as fire control chief of Reg. 6 . . . **Roger J. Nelson**, supervising highway engr. for Pac. Northwest Region of U.S.F.S. since 1952, promoted to regional engr. of Southwest Region, Albuquerque, N.M. . . **Bernard L. Orell**, vice pres. Weyerhaeuser Co., Tacoma, Wash., is re-elected president of Forest History Society, St. Paul, Minn.

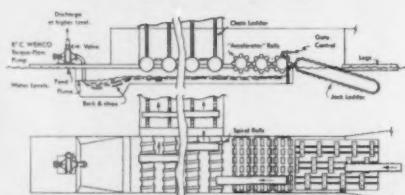
WEMCO

The INCREDIBLE Torque-flow Pump!

the pump they
couldn't clog

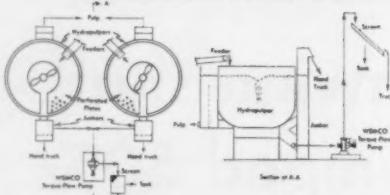


MILL POND CLEAN-UP



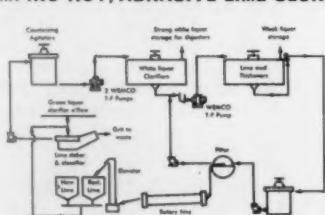
In a large Canadian paper mill a Torque-Flow Pump is used to keep mill pond and power generation intakes free of bark slabs and chips torn from logs by haul-up equipment. Although debris is skimmed from surface of pond, the pump has operated continuously for an entire season without air binding or clogging.

HYDRAPULPER CLEAN OUT



An increasing number of reclaimed paper installations now use Torque-Flow Pumps for hydrapulper clean out. Because of exclusive non-clog liquid impeller action, a Wemco Torque-Flow can pump wire, rags, rope, glass and other debris directly from the junker onto a trash screen. If done manually, clean out would require several man hours of labor.

PUMPING HOT, ABRASIVE LIME SLURRY



In a northwestern paper mill, Wemco Torque-Flow Pumps are used to feed a hot, abrasive lime slurry from the causticizing agitators to the clarifiers. Plant records on a pump installed in 1958 show a maintenance expense of only \$20.00 in over three years' operation! A Wemco Torque-Flow Pump is also used to pump the lime mud, which runs as high as 40% solids, from the clarifier to the thickener.

Only Wemco's Torque-Flow Pump with continuous, open passage, liquid impeller could have done it!
Write for more detailed information on Torque-Flow applications today.

WEMCO

® a division of
Western Machinery Company
650 Fifth Street, San Francisco 7, California



Barthelmy

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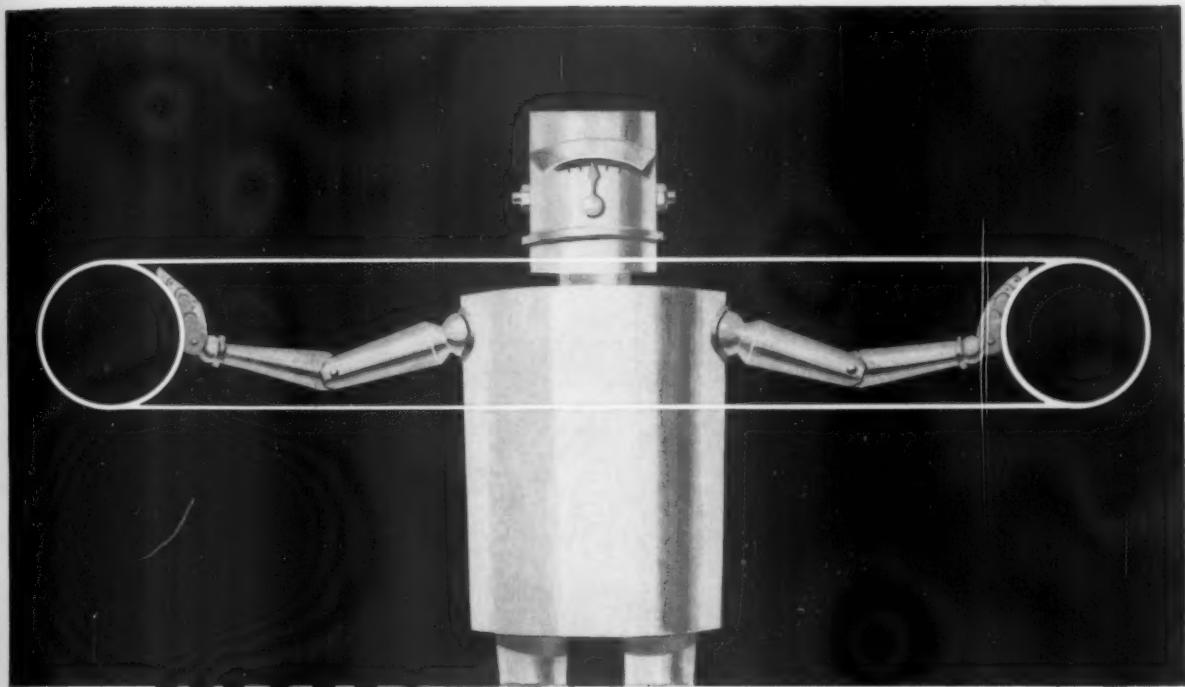
Promoted at Crown Zellerbach Camas (Wash.) Div. are **E. P. Barthelmy**, now asst. gen. supt.-paper production; **H. Louis Ostenson**, succeeding Mr. Barthelmy as paper mill supt.-tissue and in turn, replaced as asst. paper mill supt.-tissue by **A. F. Eymer**.

Stephen Thurlow of Stephen Thurlow Co., 1912 Minor Ave., Seattle, Wash., now represents Kohler Coating Machinery Corp. in Washington, Oregon, Idaho and Montana.



Edward P. Anderson, 67, pioneer forest products industry leader in the Pacific Northwest, died at his Olympia, Wash. home July 11. Since 1943 he had served as a director of Puget Sound Pulp & Timber Co. which was founded by his brother, the late Ossian Anderson. A son, **Roy Anderson**, is manager of domestic pulp sales for this Bellingham

Newest improvement in paper making!



INGLIS WIRe TEnSIOn DEVIcE

... lengthens wire life
through automatic control

The newest Inglis contribution to better paper making takes the business of wire tension adjustment out of human hands—maintains the appropriate uniform tension automatically. The device lengthens wire life by compensating automatically for natural stretch, and by positively eliminating the danger of damage from over-tension in a wire cooling after hot stock is removed. When required, easy manual changes can be made, allowing the paper maker to use his judgment in selecting the best tension for different wires. Tension settings may be recorded for later reference.

From head box to winder, paper machinery by Inglis is designed and built to keep the modern paper maker in step with modern production demands.

For full details of the Inglis Wire Tension Device, write for publication P.P. 604.

PAPER MAKING MACHINERY

JOHN INGLIS CO. LIMITED

14 STRACHAN AVENUE, TORONTO, CANADA

Sales and Service throughout Canada and the U.S.A.

X148

STRICTLY PERSONAL...

firm. Edward Anderson was president of Tumwater Mills and Anderson Industries, and a member of Olympia Port Commission.

Richard S. Denenholz, traffic consultant, Rego Park, N.Y., has been retained by Southwest Forest Industries, Phoenix, for initial traffic planning of its pulp and paper mill nearing completion at Snowflake, Ariz. He will work with Earl R. Schindler, traffic manager for Southwest. ... Alan C. Lundberg is now credit manager for Southwest.

South

Donald H. Welch now is manager of Brown Co.'s new Bermico Fiber pipe and conduit plant, Birmingham, Ala. Formerly supt. of the old plant, he relieves Brown Co. vice president Robert W. Andrews who supervised construction and start-up, and who will retire Oct. 17.

D. D. Cameron has been appointed dist. sales mgr. of the recently consolidated southeastern and southwestern pa-

per chemicals sales territories, Hercules Powder Co., pine & paper chemicals dept. He was dist. sales mgr. of the Atlanta office. W. E. Hamilton, former dist. mgr. of the New Orleans office, which will close Sept. 1, will be assist. dist. sales mgr. of the new 11-state territory.



Jackson III



McCardle

Glenn D. Jackson III, formerly responsible for Ga. and Fla. sales areas, will now serve Penna., Md., Del. and Va. for Dewey and Almy Chemical Div., W. R. Grace & Co. Billy E. McCardle, formerly handling Tex., Okla., La., Ark., Miss. and western Tenn., takes on Fla., Ga., Ala. and eastern Tenn. His former territory is handled by William C. Capehart, whose appointment was recently announced.

Homer L. Lusby is now supt. paper manufacturing, Bowaters Carolina Corp. He was with Continental Can Co. as asst. to general manager paper and board.



Melbourne P. Binns has been named Atlanta general manager of industrial chemicals div., Pennsalt Chemicals, responsible for organic and inorganic sales in Southwest.



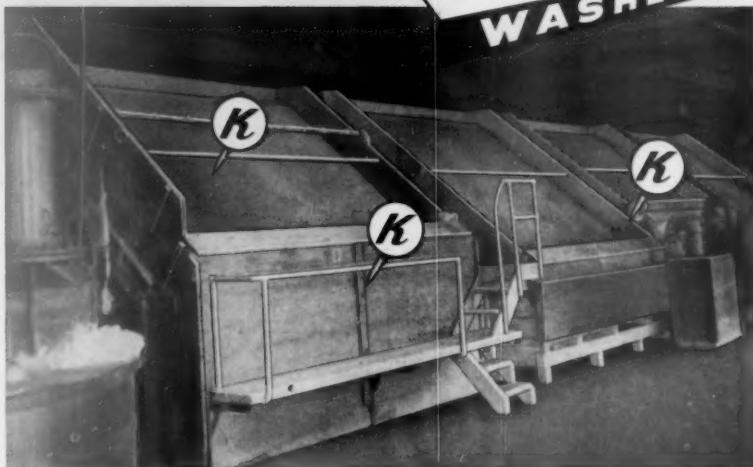
Hubert M. Lyle is supt. finishing and coating, Bowaters Carolina Corp. He has a b.s. in chemical engineering from U. of Washington, was previously with St. Francisville Paper Co.



Canada

Donald Ross-Ross, referred to by his boss as "a specialist's specialist", retired recently from the Howard Smith Paper Mills after a 36-year career with the

Kalamazoo "SIDE HILL" WASHER



Plus features of the Slide Washer

Practically maintenance free operation!

Power economy plus! Low, low "first cost"!

Whether as a washer, a saveall, or thickener, the Kalamazoo "Side Hill" Washer will give you a better and more effective wash job than any other method available today.

These units are especially designed for each installation and fabricated of top quality materials. Installation supervision furnished upon request. Laboratory units available for experimental purposes in determining proper angles and screen mesh.

FREE cost estimates and names of other installations upon request.

WOOD TANK DIVISION

Kalamazoo TANK & SILO CO.

501 Harrison St.
Kalamazoo, Mich.



Get the jump on your competition... with boxes brightened by TITANOX®

These white titanium dioxide pigments provide paper-board products with the whiteness, brightness and opacity that help make sales messages and brand names spring out to catch the buyer's eye at the point of sale.

No matter what your production requirements, there's a TITANOX pigment to meet them. TITANOX-A-CG, the coating-grade anatase titanium dioxide pigment, is especially designed for high-speed, high-solids coatings. For beater pigmented stocks, TITANOX-A-WD or TITANOX-A-MO, both anatase TiO_2 , may be preferred. And for waxed and similarly

treated stocks, there's TITANOX-RA-50, rutile TiO_2 . Regardless of which you choose, you can count on receiving the easy working qualities and uniformity of all properties for which all TITANOX pigments are noted.

For the type of TITANOX best suited to meet your pigmentation requirements, we cordially invite you to consult our Technical Service Department. Titanium Pigment Corporation, 111 Broadway, New York 6, N.Y.; offices and warehouses in principal cities. In Canada: Canadian Titanium Pigments, Ltd., Montreal.

8100

TITANIUM PIGMENT CORPORATION
SUBSIDIARY OF NATIONAL LEAD COMPANY



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company, latterly as gen. purchasing agent and purchasing co-ordinator for the parent Dominion Tar & Chemical organization. **H. E. Mason**, exec. vice pres., presented Mr. Ross-Ross with a camera as a farewell gift in behalf of fellow employees at Cornwall division.

William McKee has been appointed gen. supt., Nova Scotia Pulp, Ltd., now under construction at Port Hawkesbury, N.S. He was with the Smooth Rock Falls div. of Abitibi Power & Paper Co. for 17 years.

Dean **George S. Allen**, dean of forestry, University of British Columbia, has resigned to accept the appointment as forest research director for Weyerhaeuser Co., and he will make his headquarters in Centralia, Wash., after September 1, according to **Edwin F. Heacox**, vice pres. timberland division. **Dr. R. W. Wellwood** has been named acting dean. Dr. Allen's responsibilities include the former duties of **William H. Cummings** who resigned as supervisor of forestry research. He will direct the firm's 22-man forest research laboratories staff as well as the research program on company tree farms. Weyerhaeuser's forest research

covers a broad field in the natural sciences, including basic studies in forest soils, physiology, genetics, entomology, pathology and biology. Investigations are carried on in several phases of silviculture, reforestation and protection with view to "growing better trees faster" . . . **Dr. John W. Ker**, another member of the U.B.C., forestry staff, has resigned to become dean of the forestry faculty, University of New Brunswick.



F. B. Hertha is appointed director of planning for Columbia Cellulose and subsidiaries. He is chairman of the company's development committee, served as financial analyst at Prince Rupert.

Hal Holden, public relations, Crown Zellerbach, Canada, is taking bows for Crown Zellerbach News, which he edits. It was chosen the best employee publication in B.C. by the Industrial Editors Assn. The "News" also holds the Pacific Industrial Communications Assn.'s top award for employee newspapers in the Pacific Northwest.

Pulpwood

K. H. Brophy has been named sales mgr., Federal Paper Co. and has been succeeded as mgr. Canada Paper Co.'s wholesale division by **Rod Legault**.

John O. Hemmingsen has been elected vice president, logging production, MacMillan, Bloedel & Powell River, Ltd. He will continue at Nanaimi where he has been gen. mgr. of logging. Mr. Hemmingsen, son of a pioneer Vancouver Island logger, was graduated from Univ. of B.C. He had long been a logging executive with MacMillan & Bloedel before it merged with Powell River Co.



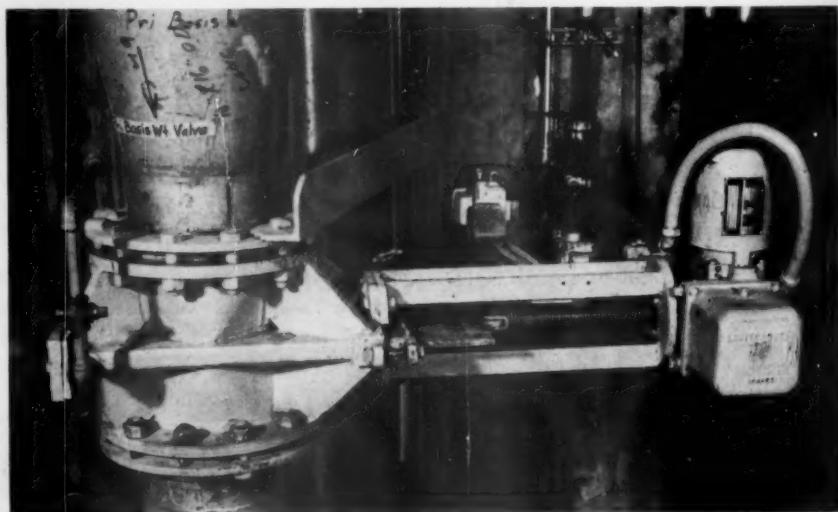
George Muller is now wood procurement mgr., Appalachian area, The Mead Corp. He succeeds **A. Karl Mock**, who has retired. Mr. Muller has been a Mead forester for 20 years.

For the eighth consecutive year, woods mgr. **John Tait** and camp foreman **Harold Hayward** of Copper Lake, Soo Woods div., Abitibi Power & Paper Co. have won the Ontario workmen's compensation board safety award.

HILTON® V-PORT THROTTLING VALVE

as used in
stock supply system of
Western Star,
St. Regis Paper Co.'s
new No. 2 machine
at Tacoma

10" Hilton Figure H-5
V-Port Slide Valve

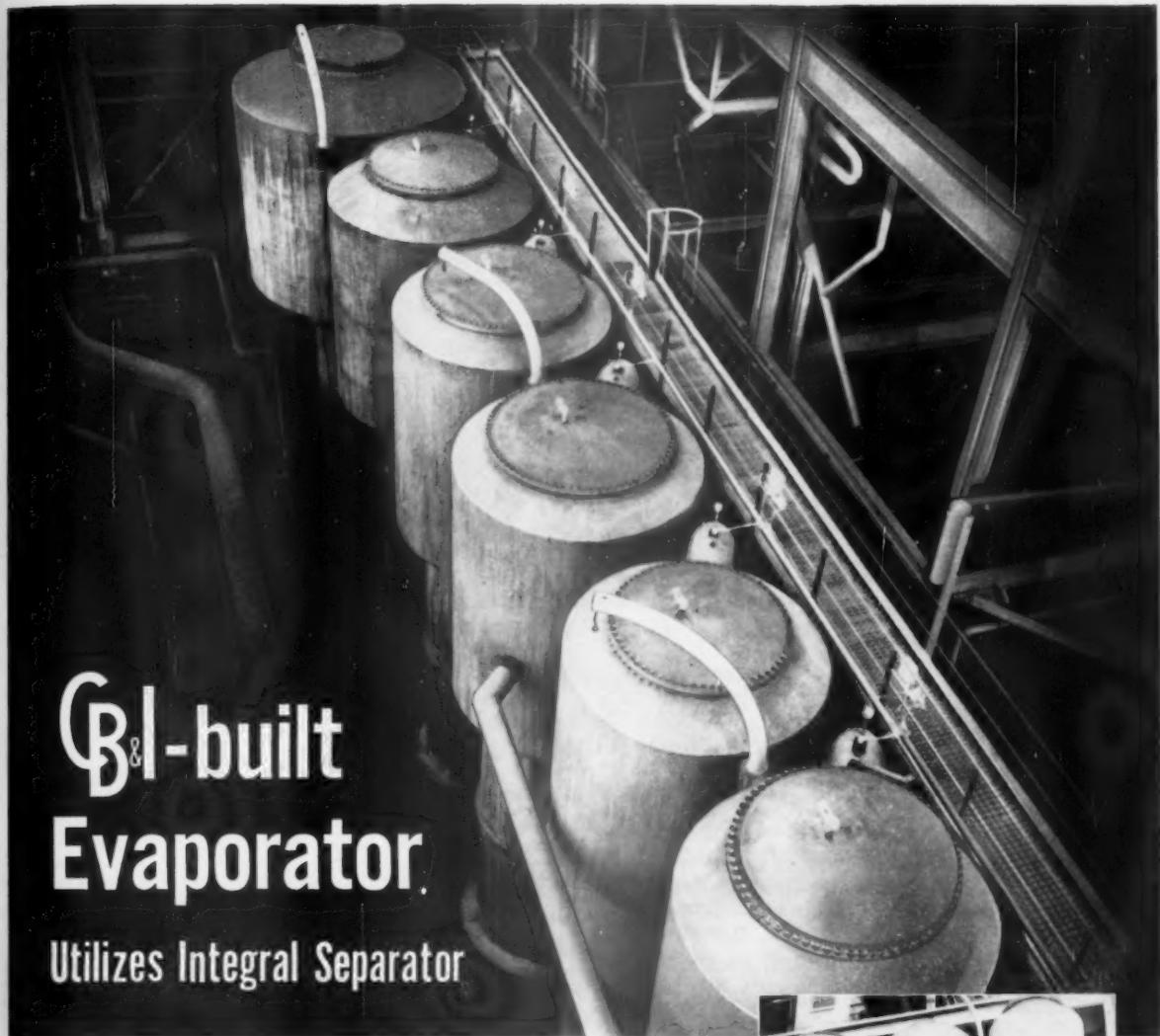


HILTON PRODUCTS CO.

specialists in high-alloy VALVES (fabricated — all types) — TANKS — PIPE FITTINGS

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CB&I-built Evaporator. Utilizes Integral Separator

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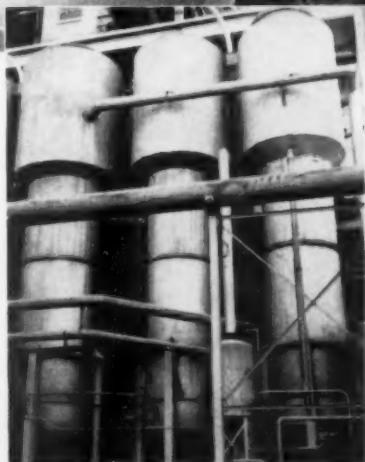
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Top view: CB&I-built evaporator at Container Corporation of America plant, Brewton, Alabama. Easy accessibility for maintenance keynotes entire installation.

Directly above: CB&I patented integral separator eliminates external piping and valves . . . minimizes pressure drop and temperature loss.

STRICTLY PERSONAL...

Bernard J. Dowling has joined Owens-Illinois southern woodlands division at Jacksonville, Fla., as operations control engineer. He will be responsible for woodlands supervisory performance plan and evaluation of new methods and procedures.

U.S. Dept. of Agriculture cites two Region 6 (Portland, Ore.) Forest Service men for superior government service: Robert L. Furniss, chief of Pac. NW. Forest & Range Experiment Station's div. of forest insect research, for development and application of methods for controlling forest pests; M. L. Smith, asst. chief, div. of operation, for achievements in administrative management and work planning . . . Robert F. Strand, assoc. forester, Crown Zellerbach Central Research Div., Camas, Wash. receives a \$2000 fellowship for forestry research from Ore. State U's School of Forestry.

Marcus H. Davis has joined Virginia Chemicals & Smelting Co. as product mgr., paper chemicals. He will develop consumer applications.

Oliver W. Durrant has been named manager of the new automation and control engineering section, boiler div., Babcock & Wilcox Co. He was with the company's atomic energy div., Lynchburg, Va.

Charles N. Lockwood has joined Alasmak Div. of Rhodia, Inc., New York. He has had broad experience in air pollution, sewage and industrial waste.

Kenneth R. Geist has been named general mgr. of a newly formed special products dept for Allis-Chalmers Mfg. Co. He will develop new business.

Paul M. Jarabek has been appointed manager of Walworth Co.'s new plastic (pvc) valve and fitting division, with headquarters in Chicago.



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Herbert R. Miller has joined the sales dept., Texas Gulf Sulphur Co. He was v.p., International div., Century Chemical Corp.

Milton M. Bixby, director of sales, paper and rubber chemicals announces these sales executive appointments in Hercules Powder Co.'s pine and paper chemicals dept: W. D. Thompson becomes sales mgr., chemical specialties—paper; David

S. Hollingsworth is asst. sales mgr., chemical specialties—paper; Robert J. Leahy is named sales mgr. for rosin size; Spencer H. Watkins is asst. sales mgr. for rosin size; and J. Houston McClane mgr. of national accounts—paper.

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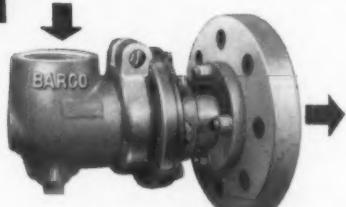
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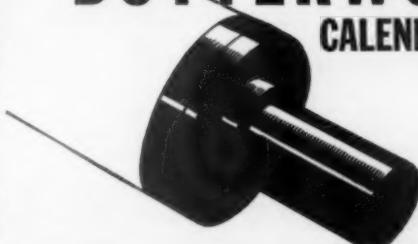
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LETTERS to the editor

Twice Right; Once Wrong

—Chapman, Alabama

Editor: At the bottom of page 5 in your issue of June 26 describing the Tennessee River Pulp & Paper Co. mill in Counce, Tenn., and its woodlands, you have us succeeding far beyond our greatest expectations in acquiring 160 million acres! Julian F. McGowin, Pomeroy & McGowin, Forest Managers

Eds. note—In the same issue on page 39, we correctly stated the company's acquired 160,000 acres. We were even more correct, if that is possible, on page 51, where we said it was exactly 159,347 acres. But "two rights" still don't make "one wrong" right, do they? We can't blame Mr. McGowin for his surprise as he is the man whose firm, Pomeroy & McGowin, helped Tennessee line up its timber needs.

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The last word

Industry Pollution Pays Hepatitis Penalty

Emotions have been greatly stirred this year by the hepatitis outbreaks in New York and other cities near public beaches and clam-digging grounds—but a long, long way from any pulp mill. Another incitement for stricter pollution controls has been highly questionable and unscientific predictions of great water shortages 30 or 40 years hence (the pulp and paper industry uses far less water per ton of pulp and paper today than it did 30 years ago, and will use much less 30 years hence).

But federal as well as state administrators are now clothed with far greater powers to shut down or restrict mills, throw thousands of workers out of jobs, and fatally disrupt scientific studies this industry is now making to abate or utilize its wastes.

Perhaps if this factual, unbiased and complete report reaches the hands of federal and state pollution controllers, they will be more cautious of how they use these new powers. We hope it will reach the hands of sportsmen, conservationists, editors, radio and TV commentators and others who are interested. We

are convinced a lot of these people are eager for the truth about the pulp and paper industry. It is in the traditional American spirit to listen and to judge and act fairly.

Over a period of three years, A. M. Cadigan, a consultant and previously with St. Regis Paper Co., gathered the material for this article. This was a special project he undertook for PULP & PAPER because he was intimately concerned by and interested in all stream sanitation measures. He finished it shortly before his sudden death late last year. Louis H. Blackerby, of our staff, did the final editing, so it is up-to-date.

This article bears the stamp of an authority, it is a valuable reference work. It is a scientific work by a scientist. We hope it is useful in preventing ill-considered punitive actions which would not only toss a monkey-wrench into the good works under way, but imperil mill jobs and mills themselves.

Take a look at the Page 7 announcement of availability of reprints and watch for the article in the Aug. 21st and Sept. 4th issues.—The Editor.

Climbing Mountains—Coming Down, Too

Dr. Louis E. Wise, mentor and close friend to many young men (and not-so-young-men any more!) in the American paper industry, has again composed a poetic contribution for PULP & PAPER—something those young (and not-so-young)

The Neophyte

One night, a half a century ago
In the deep woods, in Maine,
Awake I lay on balsam boughs,
Under an open sky.

The woodsman, my companion slept,
But I was wide-eyed watching stars,
And breathing in the forest's fragrance.

Early next morning, we climbed
New Hampshire Royce, a twin,
(There was a Maine Royce too);
Both minor mountains of the Presidential Range
Not very steep or rugged,
But wearing for a novice like myself—
And strange.

My patient friend, no older than was I,
Showed me the way
To find the trails
And gain the safer footholds.

men might cogitate about.

Dr. Wise, a teacher of future papermakers at Syracuse University 30 to 40 years ago, and now a research associate at The Institute of Paper Chemistry, was TAPPI's Col. Medal winner in 1960.

Views from the summit, I can't recall.

I was befogged from loss of
And unreceptive too.

That afternoon, in the Maine forest,
On the way down to Echo Lake,
I came awake; my sight was gone.

Suddenly—within ten years—
Beautiful, and taken by surprise
A red fox and his vivacious
Stared at me, then turned and disappeared,
Leaving this rude intruder dismayed,
Warned and strengthened for the miles
to come.

• • •

And now, as I climb down a steeper
hill,
That vivid, russet flash is with me still.



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